"We Seek to Serve and Not to Compete"

Volume XV No. 8

Price 20 nP.

Annual Subscription .. Rs. 2·25

Half-Yearly .. .. Rs. 1·12

Advertisement Rates on request

Phone: 83111 Extns. 52 and 96

MADRAS INFORMATION

AUGUST 1961

CONNEMARA ... 13 AUG 1961 MADRAS

Contents

	PAGE
1. India of our Dreams	3
2. New Look in Madras Villages	4
3. Towards Better English Teaching ..	8
4. Progress of Community Development ..	11
5. Profile of a Prize Bond Winner	14
6. From Aranthangi to Avadayarkoil ..	16
7. Yelagiri—A New Summer Resort ..	17
8. Research on Communicable Diseases ..	21
9. Science in the News	23
10. Bridge Across the Marudayar	26
11. Sharing Fruits of Research across the World.	28
12. Project to settle Educated unemployed ..	30
13. State Aid to Indigent Artistes	32
14. Fishermen Training Schools	33
15. The Writer as a Successful Co-operator ..	34

This month's cover

August 15, 1961, marks the fourteenth anniversary of Indian independence. Considerable progress has been recorded in improving the material and moral well-being of the Indian citizen during this period. The cover design expresses the people's sense of dedication from which have sprung the various constructive efforts that have made national progress possible.

TRADE
WITHOUT TEARS
Metric weights have come into use. Prices are expressed in terms of Metric units. And yet, transactions involve irksome calculations.—Why?
Because the Metric concept is not followed. Commodities are asked for either according to old weight or its equivalent:
233 grams — for one pao
454 grams — for a pound
175 grams — for five palams
Either way the advantage of the reform is not realised.
The right way is to ask for
200 or 300 grams
400 or 500 grams
100 or 200 grams
This way we will get full advantage of the reform. Combined with decimal coinage, transactions will be simpler and calculations much easier.
Ask for your requirements in
ROUND METRIC UNITS
IT HELPS YOU
AND THE TRADER
ISSUED BY GOVERNMENT OF INDIA
DA 61/108

13 AUG 1961
MADRAS

The India of our dreams

[The recent appeal of Prime Minister Jawaharlal Nehru to the services and the people to work continuously and deliberately for the promotion of national unity and the emotional integration of the people of India so that the "India of our Dreams" is an achieved reality gains special significance viewed in the light of the fourteenth anniversary of Indian independence which falls on August 15, 1961. This article gives the text of his appeal].

After fourteen years of independence, fourteen years of hard work and travail, of considerable success and occasional failure, we have arrived at a critical phase in our national existence. Indeed this critical phase applies to the international scene also, and no man can say what the future may bring to this afflicted world.

Mighty Effort

We have started on the Third Five-Year Plan. This is a mighty effort, based on the strong foundations laid in the First and Second Five-Year Plans, and aiming still higher. We are determined to succeed in this great adventure. We have faith in it because we have faith in our people, and it is the hard work and co-operative spirit of our people that will bring success and the advancement of our people to greater prosperity and equality of opportunity. The Third Plan will, we hope, take us out of the rut of poverty that has brought so much unhappiness and degradation to our millions.

To make good Plans is not easy, but far more difficult is to implement them. That implementation demands the joint effort of all our people. More particularly it demands the effort of the vast governmental administrative machinery. I am, therefore, appealing to this vast machinery of Government, spread out all over India, which carries the burden of Government and on whose activities depends the success of everything that we may undertake.

Model of Integrity

I appeal to all of them for integrity in the public services. This is not merely an ideal to be thought of or to be aimed at, but something which has to be practically achieved. It is intimately connected with the individual good of all of us. Let our public services be a model of integrity and efficiency, of co-operation and courtesy.

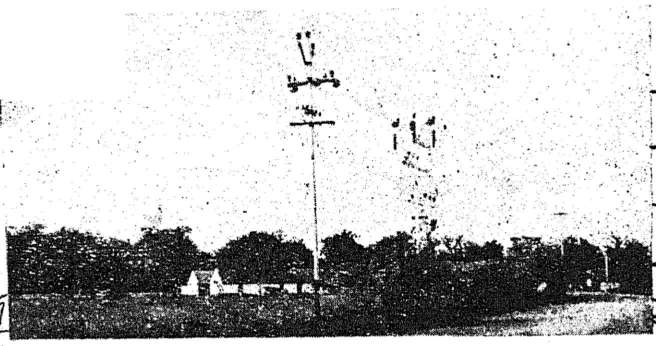
Thousands of years of history have conditioned our people and made our country what it is—an abiding unity and, at the same time, great diversity. People of many religions live in this country, many great languages flourish among our people. And yet, in spite of this variety, there has been a deeper unity which has held us together. Each one of us must realise that the only future for India and her people is one of tolerence and co-operation which have been the basis of our culture from ages past.

Emotional Integration

We have laid down in our Constitution that India is a secular State. That does not mean irreligion. It means equal respect for all faiths and equal opportunities for those who profess any faith. We have, therefore, always to keep in mind this vital aspect of our culture which is also of the highest importance in the India of today. Those who put up barriers between one Indian and another and who promote disruptive tendencies do not serve the cause of India or her culture. They weaken us at home and discredit us abroad. Therefore, it is of the utmost importance that we should work for this emotional integration of India.

This applies to linguistic differences also. It is our proud privilege to have great languages, intimately connected with each other. Let us serve them all and not consider any language which is not our own mother-tongue as something alien. All these languages have grown up through the ages and are of the flesh and blood of India. If anyone is injured, that injury is of India.

I appeal, therefore, for this conscious effort on the part of all of us for the emotional integration of all our people. I want this translated into the day-to-day activities of ours, official or non-official, so that we may build up the India of our dreams.



NEW LOOK IN MADRAS VILLAGES

[The Rural Electrification Programme in Madras State has made striking headway during the past decade. The Prime Minister has been considerably impressed by the State's performance and has stated that this aspect of development was well worth emulation by the other States in India. An attempt is made to present in this article the impact of the Rural Electrification Programme in the State's villages.]

Two aspects of life in Madras State that the traveller by train who has lived through a few decades is bound to notice is the increasing number of wayside railway stations that are electrified and up to date and the dwindling area of darkness by night in the rural landscape. Looking out from the train, the traveller gazing into the night no longer encounters the extending sheets of darkness that characterized the view from the window of the running train a few years ago. His vision is now frequently relieved by spells of bright dotted lines in the distance on either side representing the wide areas in the State to which the Government has carried the benefits of electricity.

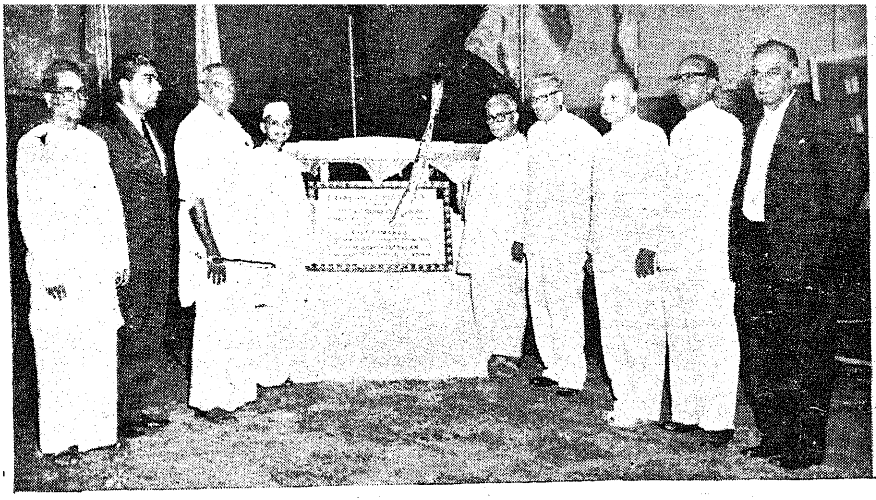
The philosophic basis for maximum emphasis on rural electrification has been very well understood in Madras State. Life in the State being predominantly rural, there was little hope of inducing village folk to stay on in their village homes in the face of temptations for prosperous living offered by nearby urban centres unless rural life was speedily improved and brought on a par with urban life. Without right efforts expended in the direction of rural uplift, the call to go back to the villages and serve rural areas would have been quite futile, nor could the exodus from villages have been prevented even with a moderate degree of success.

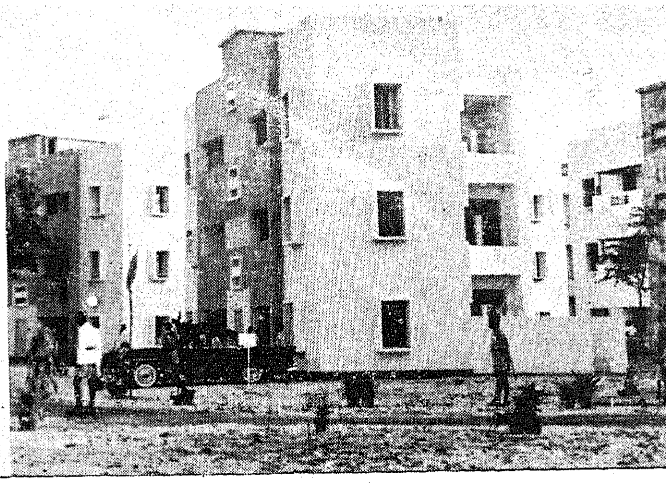
A village street in Kallupatti in Madurai district which enjoys the benefit of electricity.

Sincere efforts

Realising the urgency of the problems, the State has made very genuine and sincere efforts to brighten up life in the villages during the past decade. The pace of rural electrification and the extent of achievements that have flowed from the earnest efforts of Government have attracted considerable attention. Electrification has been of special significance in the State's villages and has been responsible for increased food production, employment opportunity and higher living standards to the common man.

Over 10,500 villages in the State today enjoy the bountiful benefits conferred by electricity. Less than 8,000 villages remain to be covered and when that is accomplished, the programme of rural electrification in the State would be complete. It is likely that this will be achieved considerably ahead of the Third Plan period if the State maintains the tempo of development at the rate that has characterized its working in recent years.





Picture taken on the occasion of the inauguration recently of the 'Cochin House' City Police Township by Union Home Minister Lal Bahadur Shastri.

The following table gives an idea of the distance that has been traversed in rural electricity development in the State (from 30 villages electrified in 1935–36 to 8,106 villages by 1958–59) :—

Year.	*Number of villages electrified (at the end of the year).*
1935–36	30
1940–41	740
1945–46	804
1950–51	1,613
1951–52	1,820
1952–53	1,981
1953–54	2,187
1954–55	2,392
1955–56	3,321
1956–57	5,016
1957–58	6,362
1958–59	8,106

Different Picture

Before the advent of electricity in the village, the peasant wore away the day, toiling from dawn to dusk, baling water from the well to water his fields. But today thanks to power, he switches on the electric pump to irrigate his farm. By going in for the power pump-set, he saves not only money but a lot of time and energy also which he uses for a host of other fruitful endeavours. His house is well-lighted and wears a prosperous look in happy contrast to the gloomy aspect that it bore in the days when the wick and oil lamp were the only means of lighting at his disposal. The village has good connecting roads that are adequately lighted by electric lamps and wandering out in the nights no longer holds any terror even to children.

Electricity is used in the State's villages chiefly for pumping water for agriculture. Over a lakh power pump-sets are used by peasants in farm operations. The demand for agricultural pump-sets in the State is something phenomenal. In spite of the State Electricity Board connecting well over 10,000 pump-sets annually, still tens of thousands of applications for this type of load remain with them and daily more applications continue to flow in. Nearly 25 per cent of the power consumed in the State is used up by agricultural pump-sets.

Cheap Rates

The most important factor that has contributed to the popularity and use of power in agriculture in the State is the fact that the Government has made Electricity available at cheap rates for the purpose. The cost per unit consumed is very cheap and the annual minimum guarantee per h.p. connected is reduced proportionately to the number of days that the well could not be used on account of drought conditions. For agricultural consumers, the security deposit is collected only for two months whereas in respect of other consumers, more is collected. Agricultural consumers are classified as essential consumers and the Electricity Department erects the service line at its own cost. New connections for agricultural pump-sets are treated on a priority basis.

The considerable saving in cost to the farmer by using electricity for lifting water from wells for agriculture per acre per crop of paddy has been the direct contributing factor to the popularity of the power pumpset in the village. Whereas through the use of the bullock and diesel engine the cost worked out to Rs. 300 and Rs. 83 respectively, by using the electric pump, it worked out to Rs. 50 only.

Processing Industries

Besides lighting, electricity is used in rural areas for processing industries like rice hulling, groundnut decorticating, oil pressing, sugarcane crushing, cotton

ginning, tape weaving, etc. Over 6,000 industries with a connected load of about 35,000 K.W. now thrive in the State's villages.

While agriculture is the backbone of rural economy in the State, the handloom industry is without doubt the next in importance. Apart from the skilled craftsmen who traditionally follow this occupation, the handloom industry provides subsidiary occupation to the agriculturist during the off season. In the light of increasing difficulties faced in countering the competition from mill-made cloth, increased adption of the powerloom in the industry is being propagated.

Cottage Industry

Another important phase of rural life where power has made a significant impression, is the cottage industry. Another fruitful off-season occupation of the farmer, he has adapted a number of such industries like silk, lace throwing, knitting machine, carding for woolen druggets, tape weaving, button making, fountain pen making, etc., to work on electricity. These cottage industries operating chiefly in Salem, Ramanathapuram, Madurai, Chingleput and Coimbatore districts have steadily increased with the growing capacity of the villager for capital outlay on machinery and other equipment. Power is offered to these industries at the same cheap rates as for agricultural pumping. These industries are encouraged as they have been found helpful in reducing unemployment in the villages and creating a marketable surplus of consumer goods.

Bright Centre

The pace of power development in development block areas has been very satisfactory. The Electricity Department has been giving topmost priority to power extensions in the National Extension Service and Community Block Development areas and loans for execution of schemes have been promptly utilised.

The availability of electric light and running water with modern sanitation in villages has reduced the gulf between urban and rural life. The amenities have been brought on a par and have considerably nullified the glamour of city life. Prospects of the exodus to the towns from the villages have been arrested with the progressive development of the village as a bright centre of social life with possibilities of cheerful living.

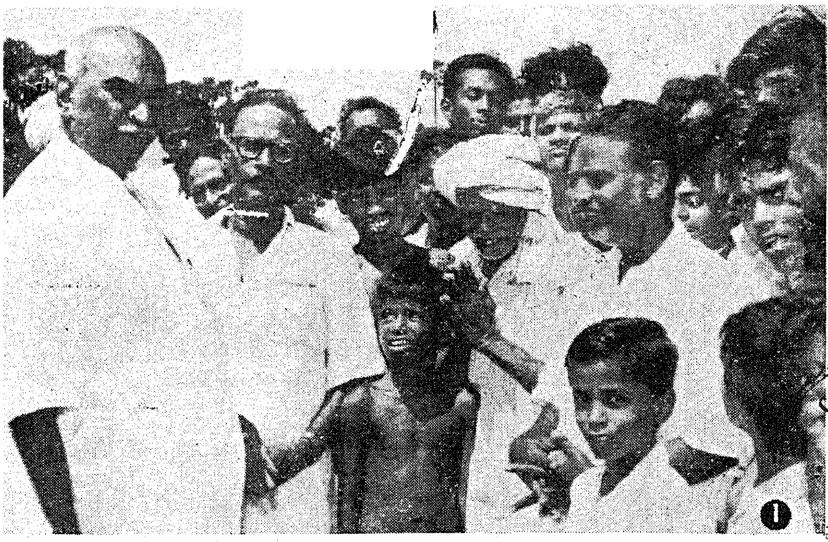
Soil Pedology

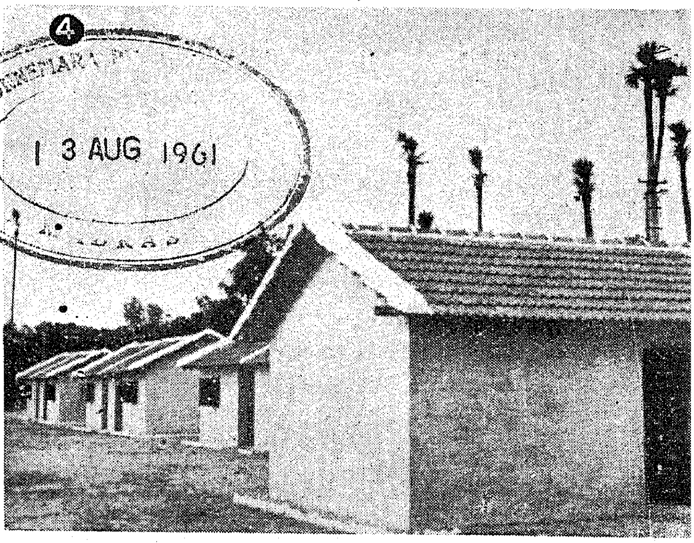
It is proposed to set up an All-India Institute of Soil Pedology (Soil Science) durin , the Third Five-Year Plan period. The Government of India have provided Rs. 60 lakhs for this purpose. An amount of 6,00,000 dollars is expected to be made available from the U.N. Special Fund for getting the necessary equipment from abroad.

The Institute, which is likely to be located at Nagpur, will survey and apprise the soil resources of India and provide essential information about the soils to serve as a basis for the agricultural development projects in the country.

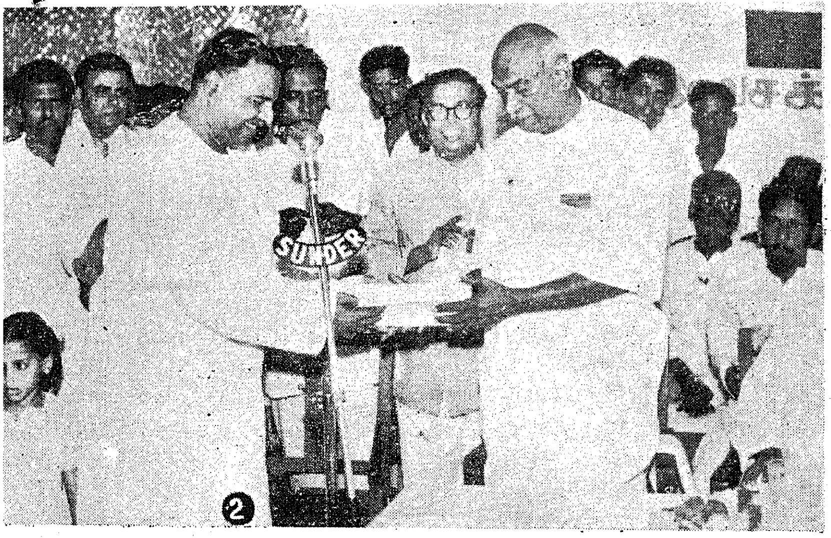
The Institute will undertake advanced training programmes in subjects like soil mechanics and pedology. It will also intensify and co-ordinate fundamental and applied research work on soil being carried out at different institutions and universities in the country. The Institute will have a farm attached to it where field experiments can be conducted.

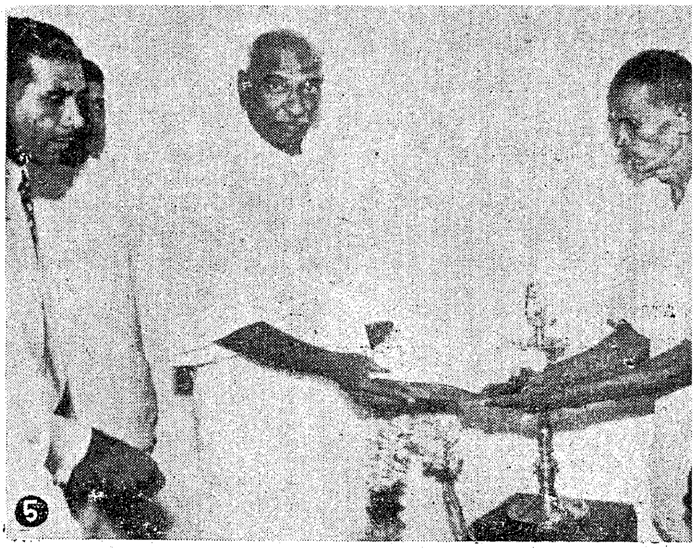
CHIEF MINISTER IN CHINGLEPUT VILLAGES

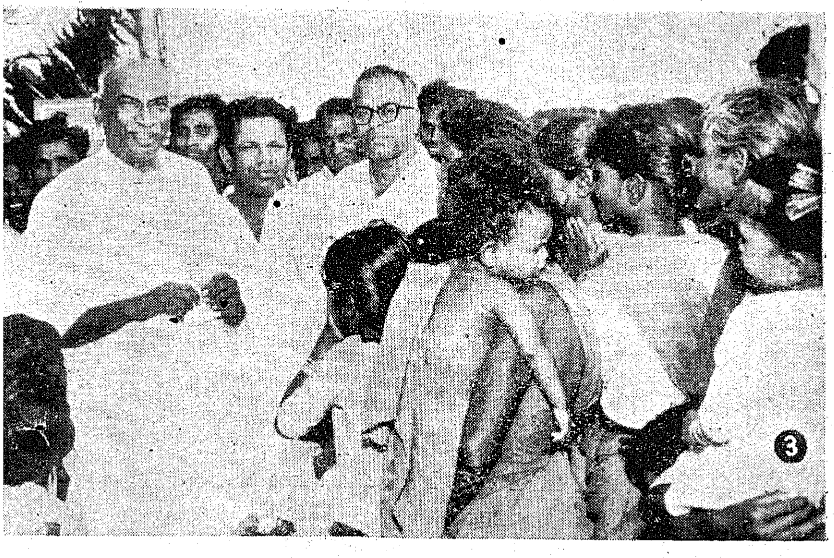




13 AUG 1961







(1) With milk vendors of Madhavaram Colony. (2) Accepting gift of land for a High School in Red Hills area from donor R. Govindarajulu Naidu M.P. (3) With womenfolk in Orakkadam Village. (4) and (5) The Harijan Colony inaugurated at Avadi. The Chief Minister distributing clothes and 'Patta' on the occasion.

TOWARDS BETTER English teaching

M. MUHAMMAD GHANI, *Deputy Director of Public Instruction.*

The need for the Madras English Language Teaching Campaign arose on account of the revision of the syllabus in elementary schools by which English was promoted to the fifth standard of elementary schools from the First Form of High Schools. This meant the training of 27,000 fifth standard teachers of elementary schools in the most up-to-date methods of teaching English as a foreign language.

The problem posed was so immense that all the earlier ideas of retraining courses were found inadequate to the demands of the new situation. A new pattern of training had to be devised. After much thought and consultation with the British Council, it was decided that the only feasible method of training such a huge number of teachers within a reasonably short period would be to adopt a system of relay. Instead of a small expert team directly training the elementary school teachers, it was resolved to train in the first instance graduate teachers from High schools and then get these graduate teachers to run training courses for elementary school teachers in the areas in which they work. The courses for graduate teachers were to be called Primary courses and those for secondary grade teachers were to be called Secondary courses.

First Primary Course

The first Primary course under this plan was started in September 1959. Since then a large number of Primary courses have been conducted and following them a still larger number of secondary courses have been conducted for training elementary school teachers. A misunderstanding that persists even in knowledgeable quarters that the Madras English Language Teaching Campaign is a scheme of the British Council has to be cleared before noting its progress. This scheme for the improvement of the standard of English-teaching in the schools of the Madras State is a Government scheme run on Government funds. This statement is however not meant to belittle the contribution that the British Council is making to the actual execution of the scheme.

British Experts

The programme and content of training given in Primary and Secondary courses is of the British Council's shaping. Besides, they have found for the Campaign three United Kingdom experts on the teaching of English overseas whose salaries they are subsidizing on a liberal scale. They have also provided books and a certain amount of equipment for the Campaign training centres. From their London Headquarters downwards they maintain a close and continual supervision over the Campaign. The day-to-day running of the Campaign is actually the biggest job of the British Council's Education Officer in South India.

For the purpose of the Campaign, the State has been divided into five areas. The scheme provides for a separate training centre for each area. The Madras area, consisting of the Revenue Districts of Madras, Chingleput and North Arcot, is served by a Training Centre at Pallavaram. This was the first Training centre to be opened and for some time this was the only training Centre in the State. Since then three more Training Centres, one at Coimbatore, another at Virudhunagar and the third at Tiruchirappalli have been opened. These centres now serve the entire State except the Tirunelveli area comprising the districts of Tirunelveli and Kanyakumari. It is hoped that a Training Centre for the Tirunelveli area will be opened as soon as the required staff and premises are available.

The Secondary Course

The Primary course is intended for graduate teachers drawn from High schools and Training schools. This course is residential and lasts for three weeks. So far,

n all the four training centres 37, Primary Courses have been conducted. In these, about 1,350 graduate teachers have been trained in the latest methods of teaching English especially to beginners. Out of these graduate teachers are formed teams of secondary course Tutors. Each team consists of 5 tutors and is entrusted with the training of about 30 elementary school English teachers in secondary courses.

The Secondary course differs from the Primary course in several ways. This course is neither residential nor intensive like the Primary course. It consists of evening classes on two days in a week and is spread over a period of five months. So far 136 such Secondary courses have been organized. About 2,000 teachers have already completed their training while another 2,100 teachers are undergoing it. This leaves about 24,000 more elementary school teachers still to train. This may seem a formidable figure but actually there is no ground for gloom. The progress till now has been slow because the campaign started with only one training centre and gradually expanded into other areas. But now, with four Training Centres in operation and a fifth round the corner, one can look forward to a rapid pace of progress in the near future.

An Impeding Factor

One of the major factors that have impeded the quick deployment of the Campaign has been the difficulty in finding suitable staff-Tutors. The staff-Tutors have to fulfil certain essential requisites and they are not easy to find. The nets are cast far and wide for such people. But the catch has so far been rather disappointing. People from Colleges, High Schools and the Inspectorate of the Education Department have been drafted into the campaign and yet the campaign is short of staff-Tutors. It is on account of this shortage that the opening of a Training centre for the Tirunelveli area has been hanging fire.

The progress of secondary courses has also been affected by lack of staff-Tutors to organize and supervise them. However, the position has not remained altogether gloomy. With the Campaign getting more widely known, more and more people are getting interested in the Campaign. Things have begun to brighten up. The picture has become more hopeful now than before that it should be possible to find as many suitable persons as are needed for Staff Tutors.

An Interesting Fact

One of the interesting facts about the Campaign has been that as it went along, the training programme and also the objectives of the Campaign have been subject to constant re-thinking and revision. The Government at the start intended the Campaign as a scheme for the improvement of English teaching in all the schools of the State, elementary as well as high schools. However, in practice, it was faced with the immediate problem of training the teachers who were handling the beginner's classes in the fifth standard of elementary schools. So the training programme had to be severely limited to the objective of training this type of teacher.

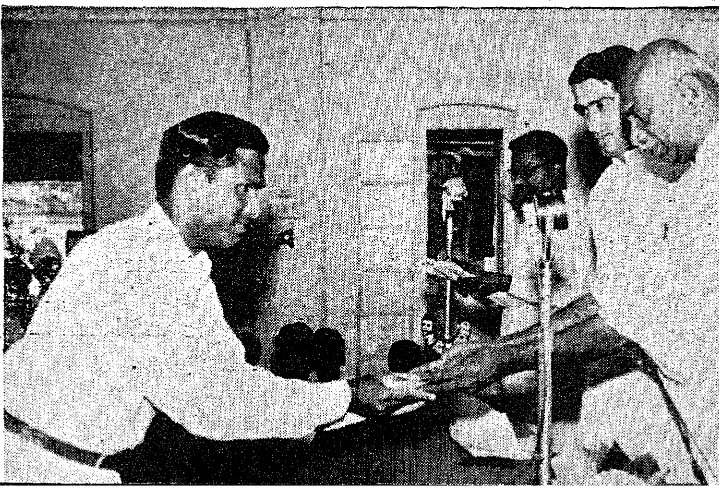
But soon it was realised that if the Campaign concerned itself only with the first year of English, it would accomplish little. On the contrary, it would almost certainly result in a huge waste of effort and money. If the children were taught the beginnings of English alone soundly by trained teachers in the fifth standard and if they were allowed to be taught by teachers not trained in the Campaign in the second and third years of English, the Campaign's work would not be sustained. All that had been accomplished at much cost and pains in the first year with Campaign-trained teachers would be completely undone by the untrained teachers in the next higher standards.

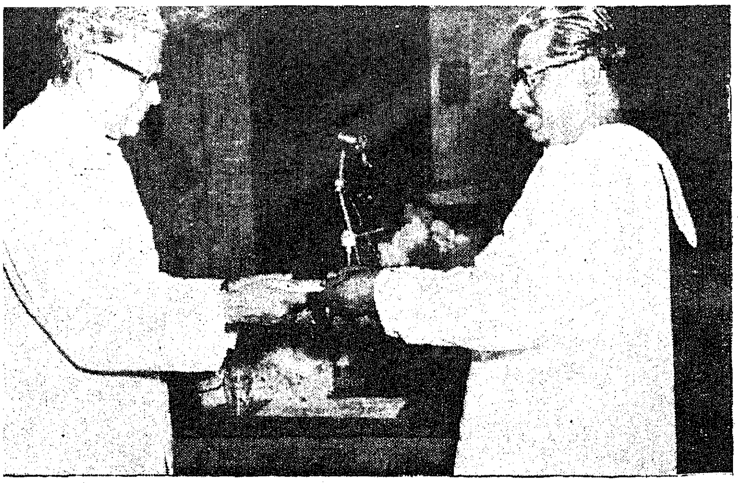
Fair Solution

It was therefore realised that it was imperative to bring into the Campaign's fold the teachers of English in higher standards also. The secondary courses which previously trained only fifth standard teachers now include Secondary Grade teachers from High schools and Higher Elementary schools. It is hoped that this will ensure in some measure that the children who learn the beginnings of English according to the Campaign method will continue to benefit by such methods in the next higher standards.

This however still leaves out the problem of High school standards. The last three years of English in the VIII, IX and X standards of High schools are taught by graduate

Chief Minister Kamaraj who recently distributed prizes at Salem to winners in the fourth quarterly Prize Eond Draw giving away the first prize of Rs. 7,500 to Sri S. M. Subrahmanyam.





Industries Minister Venkataraman who recently distributed prizes at Coimbatore to winners in the fourth quarterly Prize Bond Draw giving away the first prize of Rs. 7,500 to Sri K. Periaswamy

teachers. It has been admitted on all hands that the standard of English in the High schools is lamentably low.

The Campaign however is not at the moment geared to the needs of High school English-teaching. It cannot forget its first task of training the vast army of V standard teachers in elementary schools. At the same time, it cannot afford to leave the High schools altogether out of the picture. There were also the difficulties of running a Campaign like this indefinitely to deal with different levels of English teaching in successive stages to be considered.

High School Teaching

It was therefore felt that some attempt should be made as part of the Campaign to do what could be done for High school English-teaching. To this end, an idea of running within the Campaign special courses for Headmasters of High schools is under consideration. As this is something of a new off-shoot, the Campaign has for the present contented itself with an experimental pilot course of two weeks' duration for Headmasters. This course was run at Pallavaram for Headmasters drawn from Madras, Chingleput and North Arcot Districts.

In some ways, this pilot course has been a revelation. Headmasters of High schools who are senior men of the teaching profession, conscious of their status and dignity, surprised everyone by the warmth of their friendliness and their willingness to listen to and absorb new ideas and techniques. This has given hope that by training the Headmasters in the most up-to-date methods, the level of English-teaching in the High school standards can be improved, However, whether at this stage of the Campaign the venture in this new direction can be undertaken on a large scale is a matter for high level decision.

Good Results

What is the 'end-product' of the Campaign like? Has the elementary school teacher trained in the Campaign absorbed all that the Campaign gives to him and how is the teaching? While seeking answers to such questions one should remember the situation of the Elementary school English teacher. He is no doubt an S.S.L.C. passed Secondary Grade Trained Teacher. But he has never taught English at all and what English he had when he took his S.S.L.C., he has had plenty of time to forget. The Campaign picks him up and puts him through 40 evening classes. The result cannot be expected to be spectacular. And yet there is ample testimony to the good that the Campaign has done.

Those who have seen the Campaign trained teacher in action agree that the training has made a big difference for the teacher and even more for the children. Learning English is no longer painful but a lively and joyous experience which the children look forward to. It is indeed this joy of the children in learning English that is keeping the Campaign going.

Travel grants to Professional Troupes

The Union Ministry of Scientific Research and Cultural Affairs has introduced a new scheme for giving travel grants to professional troupes to promote the study by individual theatre groups of the techniques of other similar troupes. The scheme will enable members of professional troupes such as producers, sets-designers, lighting experts, choreographers and make-up men to visit other professional troupes and learn their techniques. A maximum grant of Rs. 2,500 per troupe will be sanctioned in a year.

Progress of Community Development

[In connection with Colombo Plan Day which recently marked 10 years of growing mutual co-operation among 21 countries of South and South-East Asia, this feature article is presented. The community development programme of the Plan has been implemented in India more extensively and with greater results than elsewhere, and much has been achieved in making the villager self-sufficient in the primary needs of life such as food, clothing and shelter since the programme was launched].

According to the United Nations, the term 'community development' connotes the processes by which the efforts of the people are united with those of Governmental authorities to improve the economic, social and cultural conditions of communities, to integrate these communities into the life of the nation, and to enable them to contribute fully to national progress.

This complex of processes is then made up of two essential elements. the participation of the people themselves in efforts to improve their level of living with as much reliance as possible on their own initiative ; and the provision of technical and other services in ways which encourage initiative, self-help and mutual help and make these more effective. It is expressed in programmes designed to achieve a wide variety of specific improvements.

Long-term Programmes

Community development is broad in its aims and methods Many of the programmes in the Colombo Plan region are nation-wide, although they began as pilot projects and have spread slowly. They are long-term programmes and not only do they have multiple objectives (social, cultural, economic, civic) but they also bring a wide range of means to bear on the achievements of those objectives.

Of all the Colombo Plan countries that have implemented the Community Development programme, India has been by far the largest and with the maximum of impact. The central objective of this programme, launched on October 2, 1952, has been to make the villagers self-sufficient in the primary needs of life, such as food, clothing and shelter. The emphasis has been on the development of self-reliance in the individual and initiative in the community, so that the people are themselves able to manage and run their affairs.

Agriculture, being the mainstay of nearly 70 per cent of the rural population, has received the highest priority in the programme. Other activities of the programme include improvement of communications, promotion of cottage and small-scale industries, education, health and sanitation, better housing, women's and children's welfare, as also the development of sports and cultural activities. Significant achievements have been made in all these fields. Much more important than the physical gains has been the change in the outlook of the people.

The Blocks, each one of 100 villages and a population of 60,000 to 70,000, are allotted only after the people in a given area have given proof of self-reliance through such norms as agricultural production, utilization of irrigation facilities, keeping the village clean, having a co-operative, a panchayat, etc. Each Block undergoes a pre-extension phase of one year. Then it enters Stage I, during which a sum of Rs. 1·2 million is provided for five years. After a Block has passed through Stage I, it enters Stage II. The total amount of funds allotted for a Stage II Block is Rs. 5,00,000 for a five-year period. These special funds are in addition to the normal funds flowing from development departments.

People's Participation

In the earliest projects, launched in October 1952, it was noticed that the people came forward voluntarily to improve agricultural production, extend communications and pave the streets, put up schools and health centres and so on. So spectacular were the results that there was widespread demand from the neighbouring areas for extension of the programme. Today the programme covers 3,110 Blocks embracing 368,200 villages with a population of 204 million. The entire country is to be covered by Community Development Blocks by October 1963.

Up to the end of September 1960, the value of the people's voluntary contribution amounted to Rs. 937 million

as against the Government expenditure of Rs. 2,008 million. During the First-Year Plan, a provision of Rs. 965 million was made for the Community Development programme. The amount provided during the Second Five-Year Plan was Rs. 2,000 million. The allocation of the Third Five-Year Plan for Community Development and Co-operation will be of the order of Rs. 4,000 million.

Aid From T.C.M.

In the initial stages, the United States provided necessary funds for producing equipment from outside India, such as jeeps, tractors for road building, agricultural demonstration equipment, mobile cinema units and other equipment for transport, audio-visual aids, etc. The revised estimated cost of the T.C.M. aid to the programme is 13,525,195 dollars. Dollar assistance under the Indo-U.S. Technical Assistance for the purchase of equipment was discontinued about four years ago, and requirements of equipment are being met out of the Rupee provision in the Block budget.

Although the development programme of aided self-help was taken up by the Government agency with peoples' participation, the ultimate aim was to make it a people's programme with Government's participation.

Panchayat Raj

A high-powered team was set up by the Planning Commission in 1957 to review the progress of the programme and to suggest measures to accelerate it. This team, presided over by Shri Balwantray Mehta, made recommendations and envisaged a three-tier system of 'Panchayat Raj' i.e., setting up of statutory people's organizations at the village, Block and District levels. The system has now been implemented in Rajasthan, Andhra Pradesh, Madras, Orissa, Assam and Mysore. It is expected that in about another year the pattern will be in force throughout the country.

Under the new set-up, the 'Panchayat' in the village will be elected by its adult population or the 'Gaon Sabha'. The Panchayats will send their elected heads or 'Sarpanches' to the next higher body—the 'Panchayat Samiti'. This will correspond roughly to the new unit of development, the Community Development Block, or a hundred villages on an average. The Samiti will also have co-opted members representing women, backward classes, etc. This body will be in overall charge of the development of the area. The technical and other personnel of the Block will henceforth act under the Samiti's guidance. The apex of this three-tier system will be the 'Zila Parishad' or the District Council comprising the Presidents of the Block Samitis and the local Members of Parliament and the State Legislature.

Each block is under the charge of a Block Development Officer, who is assisted at the Block level by a team of eight extension officers. They are subject-matter specialists in agriculture, animal husbandry, cottage industries rural engineering, social education, public health, co-operation and panchayats. There are ten 'Gram Sevaks' or Village Level Workers (men) and two 'Gram Sevikas' (women) in each Block. The Village Level Workers are given extension training for two years in various subjects of importance, and they help to maintain liaison between the village people and the team at the Block level. They maintain a two-way traffic, acting as the multi-purpose extension agent at the village level and transmitting the people's problems back to the Block for solution.

Because of its all-embracing character, the Community Development programme has from the beginning encompassed the other Central Ministries, such as Food and Agriculture, Commerce and Industry and Education. They drew up their training programmes for workers in their respective fields. The Ministry of Community Development stepped in to provide training for other categories of workers. The Ministry has been developing its resources for training and orientation of such administrative and technical personnel—from the State headquarters to the field level—through the apex Central Institute of Study and Research in Community Development, Mussoorie, the Institute for Instruction on Community Development, Dehra Dun, and the numerous Orientation and study Centres, Social Education Organizers' Training Centres, Mukhya Sevikas' Training Centres, and so on.

In other Countries

India has shared her knowledge and experience in the field of Community Development with other Colombo Plan Countries. Since 1956, twenty-two persons from six countries have spent varying periods of training in India. The countries from which they came are New Zealand, Laos (which sent the maximum number of 10), Burma, Indonesia and Nepal.

The following is a round up of the main features of Community Development Programme in other countries of the region :—

The Pakistan Village Agricultual and Industrial Development (or Village AID or V-AID) Programme is the second largest Community Development Programme in the world. By December 1959 it had established 141 development areas covering more than 27,000 villages, and had upwards of 3,000 V-AID workers on the job, three-fourths of them in the West.

Following a United Nations advisory Mission in 1955, Indonesia began a National Community Development Programme on a modest basis but with important announced aims. Sixteen new pilot projects, each covering an administrative district, are initiated each year with district officers in charge, supported by Dxtension Officers of the technical Ministries.

Ceylon

One of the oldest programmes, dating back to 1947, is that of Ceylon. Approximately 7,000 " Rural Development Societies" now cover the island–autonomous and democratic bodies whose main functions are to give their members a new form of social organization through which they can undertake activities for improving neighourhood life. More than 3,000 women's societies also operate actively in the villages of Ceylon, side by side with the Rural Development Societies.

The Philippines took up community development work seriously in 1954 by creating a Community Development Planning Council and in 1956 established the present programme under a Presidential Assistant on Community Development (PACD). By 30th June 1960, 6,327 barrios (villages) in 433 municipalities in 53 provinces had been covered by the Government programme. Under this programme, 26,526 projects were approved, of which 18,819 or 70·87 per cent were implemented and completed, benefiting about 5 million people.

Burma

A full-scale community development pilot project was launched at Payagyi, Pegu district, in 1955. Several years earlier, the Government formally began its pyidawtha (" Welfare State ") grants—for local public works—to divisional committees composed of officials and representatives of the people, a programme which resulted in considerable construction activity all over the country.

In Nepal, a Village Development Programme was launched in 1956. Dividing the country into 165 blocks, it aims at establishing village and rural development centres in various parts of the country for the all-round development of the local communities and to achieve full coverage in twenty years. The development blocks now cover about 5,800 villages and serve nealy 2·2 million peole.

In Laos, the Rural Affairs Commission set up by the Government went into full operation 1959–60. In 1959, under these projects, 350 schools, 35 dispensaries, 207 meeting halls, 107 model workshops and 6 markets were set up. Other projects carried out included irrigation canals, wells, small dams and minor airfields.

Viet Nam

A quite different pattern has evolved in the Republic of Viet-Nam. After the Geneva Agreement of 1954, the southern part of the country had some 2,000 " civic action agents ", working in the villages in mobile teams to promote security and civic education. From 1957 onwards roughly one-half of these agents have been assigned to be given districts specifically for community development work, with support from specialists (now about 400 in number) trained for "civic action" and with large numbers of helpers hired as needed on a daily basis. All hamlets and villages were brought into the operation from the outset.

Cambodia's Ministry of Planning initiated in 1959 a Community Development Programme by establishing pilot projects in two provinces and broadening the other existing fundamental education projects.

Thailand

In Thailand, following earlier efforts by its Department of Public Welfare, the Ministry of Interior, began in 1958 its Community Development Programme. By the end of 1960, every Province was expected to have at least one rural development unit operating under this programme.

The Federation of Malaya began in 1958 to offer grants to assist the States' Community Development Project. At the Federal level, the sponsoring Department of Community Development forms part of a newly established Ministry for Rural Development.

Community development schemes designed to improve living conditions on a self-help basis are in operation in North Borneo and Sarawak.

Catalogue of Plant Life

The National Science Foundation, Washington, is supporting a project to catalogue all of the earth's plant life into a master index for researchers throughout the world. The International Business Machine (IBM) computors will aid in the task of indexing the world's plants, estimated to number 1·7 million, by group, family, genus and species. The result, to be published in 50 volumes, also will provide a cross reference of everything which has been written by major botanists. The project is expected to clear up the confusion which has arisen because scientists working in different places and times have often attached different names to the same plant.

PROFILE of a Prize Bond Winner

[A profile of Sri R. Chinnappan, a Pointsman in the Southern Railways at Samalpatti, who won a first prize of Rs. 7,500 in the III Quarterly Prize Bond Draw held on March 1, 1961 is presented in this article. According to him the Prize Bond has greater meaning to the large masses of poor people like him than to the rich. To the poor man, the Prize amount, whatever it is, is real luck and verily a fortune if it is a first or second prize. He also appreciates the Prize Bond as a form of saving, if not anything else. If one gets the prize, well and good ; if not, the money is safe and is useful in the hands of the Goverment till it is returned to you at a later date, he states.]

Mr. R. Chinnappan, a Pointsman in the Southern Railway at Samalpatti Station, had the good fortune of winning a First Prize of Rs. 7,500 in the Prize Bond draw held in the month of March 1961. The Prize Bond with the lucky number AP 471231 purchased by him at Kallavi Post Office on October 10 1960, brought him the fortune.

He purchased the prize bond of his own free will convinced that the Government Prize Bond Schem is a good scheme and the money is being utilised for national development work. His own railways provided an example of such development. Also, the scheme assured him the chance of making a fortune without having to lose the amount that he invested in the Prize Bond.

Happy Family

Hailing from Kodumudi near Erode, Chinnappan who is 43, joined the Railways in 1941 and has served the Railways since then. Happily wed to Muthammal, Chinnappan has a cheerful family of four children. One of them is a girl now studying in High School in the VI form. She was also instrumental in persuading her father to purchase the prize bond. She was able to do so because she is supposed to be the lucky girl in the family.

Chinnappan, like millions of his countrymen, belongs to an agricultural family and owns a piece of land. He hopes to add to that holding by purchasing more land with the prize amount. According to him, there has not been anything like great luck in his life until the prize bond brought it to him. He however owns that his present position in the Railways is by itself a very satisfactory situation.

A very simple and honest man, Chinnappan is also a strong believer in savings. He has a savings account in the Post office and has deposited his savings in it. He has saved considerably and also purchased land out of savings. He will now add more land to his holdings and on retirement proposes to give all his time to cultivation.

Greater Meaning

Chinnappan's family employ themselves in rearing cattle, selling milk, etc. They live carefully and always try to save something. Chinnappan attaches importance to the education of his children. He intends putting his daughter who has taken the S.S.L.C. examination in a Training School to get herself trained for teaching, which he considers is a very noble profession.

According to Chinnappan the prize bond has greater meaning to the poor than to the rich. To poor persons like him, the prize amount, whatever it is, is real luck and a fortune if it is a first or second prize. To the rich the prize amount will mean merely an addition to the bank balance. He feels that every family, and if possible every citizen in the country should purchase one prize bond at least, if not more, and keep the doors open for the angel of fortune to enter freely.

FORTUNE FAVOURED THEM

Here are some Winners in the IV Prize Bond draw, who won prizes upwards of Rs. 1,000, from various districts in the State —

I Row :—Salem District: S. M. Subramaniam Rs. 7,500; Ramalinga Pandaram Rs. 2,500; Marimuthamma Rs. 1,000; Chinnammal Rs. 1,000; Venkatappa Gounder Rs. 1,000; II Row :—P. S. Swami Rs. 1,000; C. Masillamani Rs. 1,000; Coimbatore District: K. Periaswami Rs. 7,500; Muthuswami Gounder Rs. 2,500; S. R. Konda Gounder Rs. 1,000; III Row :—K. Mariappan Rs. 1,000; Govindaswami Gounder Rs. 1,000; Nanja Naicker Rs. 1,000; Chinnaswami Rs. 1,000; Devaji Rao Rs. 1,000; IV Row :—N. Dandapani Rs. 1,000; K. Naryanaswami Rs. 1,000; R. Palaniappan Rs. 1,000; Tanjore District: —P. Narayana Pillai (100 rupee bond) Rs. 10,000; Representative of Kattalai Vicharani, Velur Devasthanam, Vaideeswaran Koil Rs. 7,500; V Row :—A. R. Radhakrishna Iyer Rs 1,000; Agent of T, A. S. Ltd. Vadapathimangalam Rs. 1,000; Chidambara Thevar Rs. 1,000; A. R. Lakshmanan Servai Garar Rs. 1,000; Madurai District: Sankaran, Rs. 7,500.

From Aranthangi to Avadayarkoil

[The Minister for Industries, Sri R. Venkataraman, laid the foundation stone for the Bridge across the Vellar in Thanjavur district at mile 7/4 of Arantangi-Mimisal Road during May 1961. The Chief Engineer (Highways and Rural Works) welcoming the Minister and others gave an account of the Highways works already undertaken in the district and those contemplated for early implementation. He also described the salient technical features of the Bridge across the Vellar for which the foundation stone was later laid by the Minister.]

It will be fitting on occasions like this, to give a brief glimpse of the work of this department with particular reference to the programme of works in hand in this district and those contemplated in the immediate future.

It has been the proud privilege of our State to stand foremost of the States in our country, possessing a well laid grid of good roads. It is a matter for gratification that this District has got one of the largest net-work of roads in this State. In the commencement of this century, i.e., in the year 1901, there were 1,732 miles of roads in this District of which only 200 miles were metalled and that too with poor quality of laterite stones. The remaining 1,532 miles were only earthen roads. These figures can very well be compared with total mileage of 3,356 miles consisting of 1,073 miles of Major District Roads and Provincial Highways and 2,283 miles of Other District Roads and Village Roads by the end of the Second Five-Year Plan period.

Several handicaps

Despite the several handicaps such as dearth of road materials, costly transport and geophysical conditions of the District with a net-work of rivers, canals and channels and with alluvial sub-soil for the roads, this District has achieved a good progress in the improvement of Roads.

Specific mention may be made of the Cauvery bridge at mile 1/1 of Ayyampet Ganapathy Agraharam Road. Next comes the set of bridges across 4 rivers between Papanasam and Kabisthalam (viz., Kudamurutty, Thirumalairajan, Arasalar and Cauvery) at a cost of Rs. 9·93 lakhs. Another bridge is across Vennar in Kambanthangudi limit at a cost of Rs. 5·8 lakhs. The latest additions to the series are the new causeways, submercible bridges and high level bridge works across Maharajasamudram, Agniar, Mudhalamuttiwari, Arasalar, Pamaniar, Vettar, Kaduvayar Ammanar, Adappar, and Vedaranyam Canal. The construction of bridges and high level causeways in Muthupet-Mimisal Road, Pattukkottai, Peravurani, Aranthangi Road, Aranthangi-Pudupatti Road and Kanur-Tirupunavasal road are also being taken up. New works to the tune of about 3·27 crores are proposed in the draft III Plan for this District inclusive of Eat Coast Road Scheme.

This bridge across the river Vellar has been taken up for execution at an estimated cost of Rupees Five lakhs. The proposed site for the bridge is on the downstream side of the existing crossing at mile 7/4 of Aranthangi-Mimisal road which is an important Major District Road connecting the taluk headquarters of Aranthangi in Thanjavur district with the pilgrim centre Avadayarkoil, an ancient place of historical interest and the main Sethu Rastha or the proposed East Coast Road. This important road caters for the need of the several coastal villages and thousands of pilgrims who visit Avadayarkoil, the abode of Lord Athmanathan, where Manickkavachaga Swamigal, Minister of Pandya Kingdom, received mukthi (blessings). This road is interrupted by two major rivers, viz., Vellar at Mile 7/4 and Koluvanar at mile 20/6. The inhabitants of this area have been suffering untold hardships in crossing the sand rivers with their carts laden with goods. Through traffic has been interrupted in some years even for a period of one month due to seasonal heavy freshes in the river Vellar. The public of the locality have justly been agitating for the construction of these two bridges for long. Realising the importance and urgency, the work of constructing a bridge across river Vellar has been sanctioned.

Technical details

This bridge across the river Vellar consists of 10 spans of 40′ clear. This will function as a pucca bridge to pass all the maximum flood waters and thereby serve the people throughout the year. R.C. Tee Beam Superstructure will be laid on vibrated cement concrete piers and abutments. The clear roadway on the bridge will be 24′ wide with R.C. Kerbs on either side to serve as wheel guards. Necessary R.C. hand rails and posts at suitable intervals will also be provided on the edges of the bridge to guide the traffic. The total length of the bridge will be 483 feet between pyl s and the length between face to face of abutments wi l be 436 feet. The approach roads of the bridge will be formed to connect the existing main road with suitable transition and circular curves. The roadway over the approaches consist of 6″ granite soiling and 6″ metalling. The bridge has been designed for I.R.C. Class AA loading.

YELAGIRI a new summer resort

[Yelagiri, on top of the Yelagiri Hills, in the Thiruppathur taluk of North Arcot district, has remained in oblivion too long and the ghat road leading to the place, now coming up, should soon put Yelagiri in the tourist map. For picturesque, Yelagiri, with her lovely climate and natural attractions, affords ample scope for being developed as a summer resort and the ghat road marks only the beginning of the process.]

As the traveller nears Jalarpet on the Madras-Bangalore railway line past Vaniyambadi and scans the view to his eft during day time, a surpassingly clear ghat road line in the distance impinges on his vision. For quite a few miles, this road formation dominates the landscape. This is the road leading to Yelagiri, now nearing completion, thanks to the speed and efficiency of the State's Highways and Rural Works Engineers.

Yelagiri is in the Thiruppathur taluk of North Arcot district. A three-mile ride from Jalarpet takes one to the start of the nine-mile road that leads up to the hills.

This roadway when perfected for regular traffic will set in motion developments that may result eventually in the transformation of the now little known Yelagiri into a popular summer resort. The place certainly has the makings of one. There is no spot of comparable merit in the vicinity.

Surprisingly Flat

The plateau of Yelagiri atop the hill is surprisingly almost flat. The slopes are gentle. The altitude of the hill where the ghat road ends is about 3,200 feet. The hill overlooks a picturesque valley covered with thick virgin forest where wild life thrives.

The entire area of the Yelagiri plateau is arable and fertile. It has adequate water sources and water is easily struck at any depth from 20 to 25 feet. The land is versatile in its yielding capacities. Besides paddy, ragi, maize, dhall, horsegram, blackgram, samai, jack fruit, etc., coffee and pomegranates have also been tried by cultivators with success. The forest yields bamboo and gallnuts.

The climate of Yelagiri is cool, pleasant and equable making it eminently suitable for being developed as a summer resort for people in the neighbouring districts. The rainy season ranges from May to November and the average annual rainfall in the region is about 45 ″. The temperature ranges from 65°F to 75°F in summer and from 50°F to 60°F in winter.

Pastoral Serenity

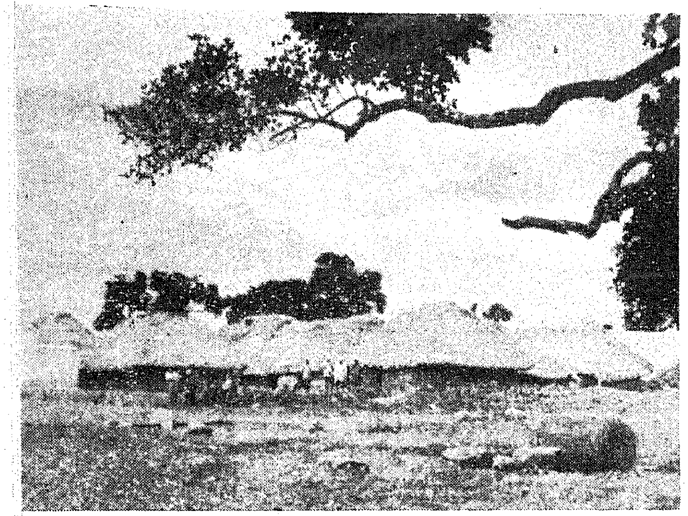
Having an area of about 5 square miles, Yelagiri has 13 hamlets including its major villages. The population is in the region of 8,000 most of which comprises agriculturists and farm labourers. The people lead a life of pastoral serenity and are quite self-contained. Whether the hill people are resident there from time immemorial or are the descendants of people who might have fled there seeking shelter during the medieval Muslim invasions and just stayed on finding the place and climate eminently suited for healthy and peaceful living, are matters for conjecture. Nobody living there is able to throw any light on this aspect. All they do know is that they were born and bred there and so were their forefathers.

There are also a handful of European and Anglo-Indian settlers in Yelagiri. These are among the few who live in brick and mortar houses. The rest of the people live in huts. The climate and plantation prospects have been the factors that have lured them to the hills.

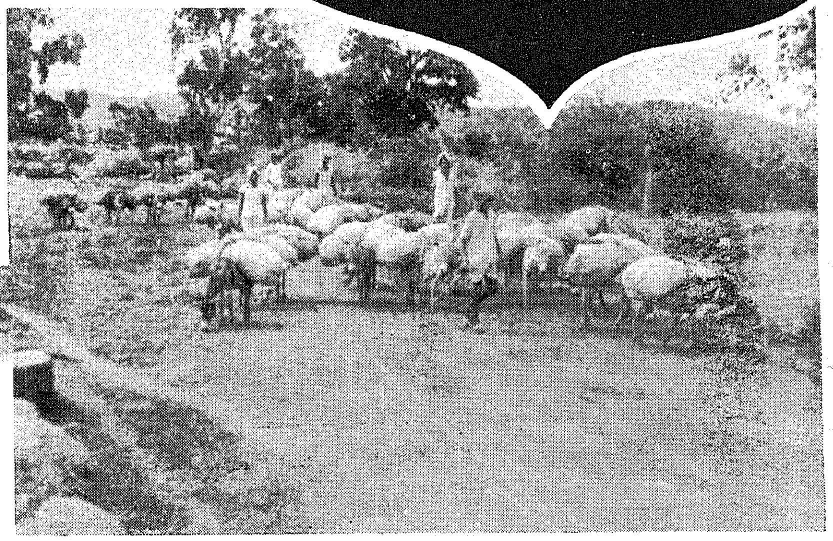
Brighter life

Mr. Newman, one of the settlers giving his reaction to the ghat road coming up welcomes it as opening up hopeful prospects for a brighter life in Yelagiri. For one thing,

Road to YELAGIRI

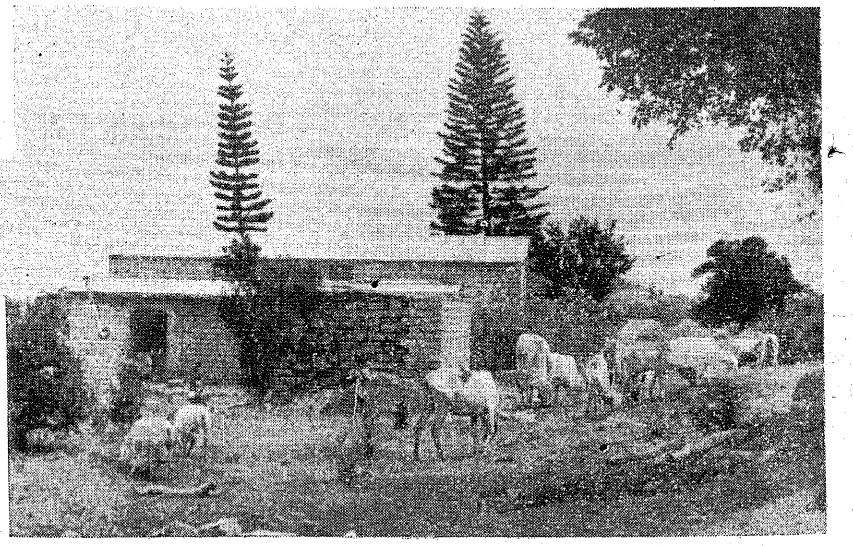


typical hamlet in Yelagiri



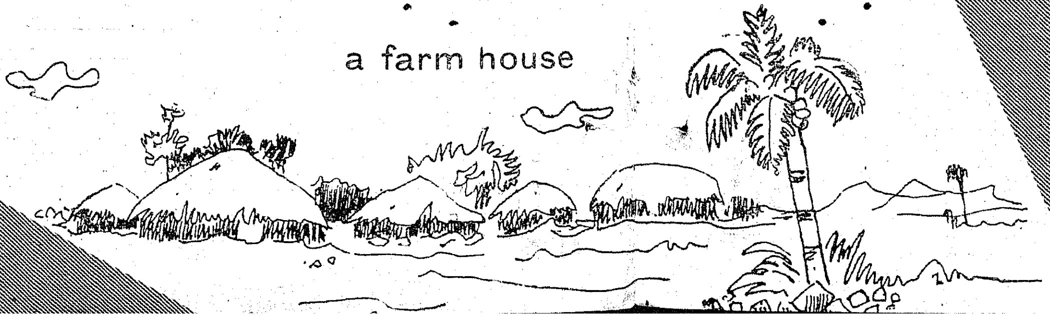
pack animals carrying produce

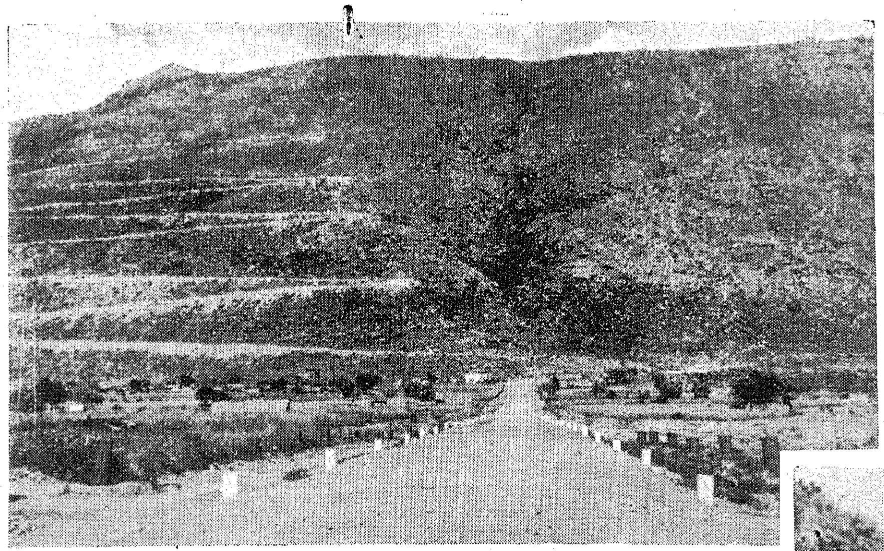
centenarian with village kids



a farm house

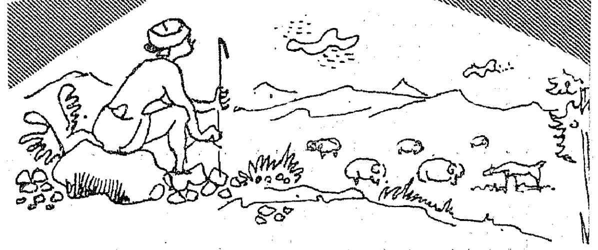
anglo-Indian settler and friend



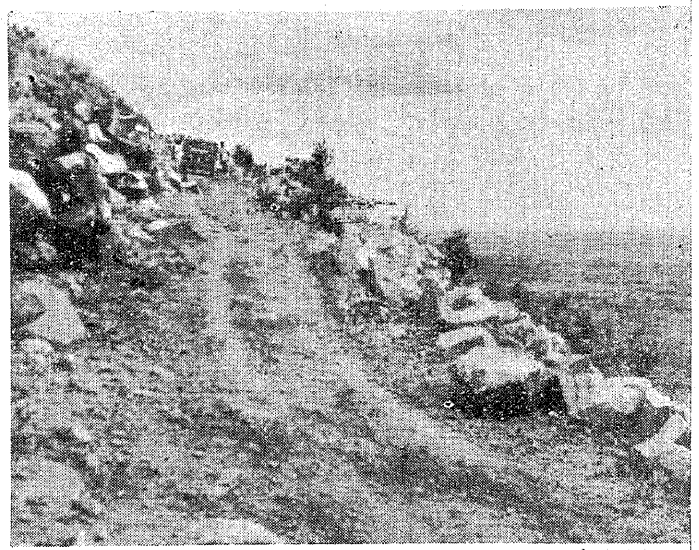


view of ghat road formation

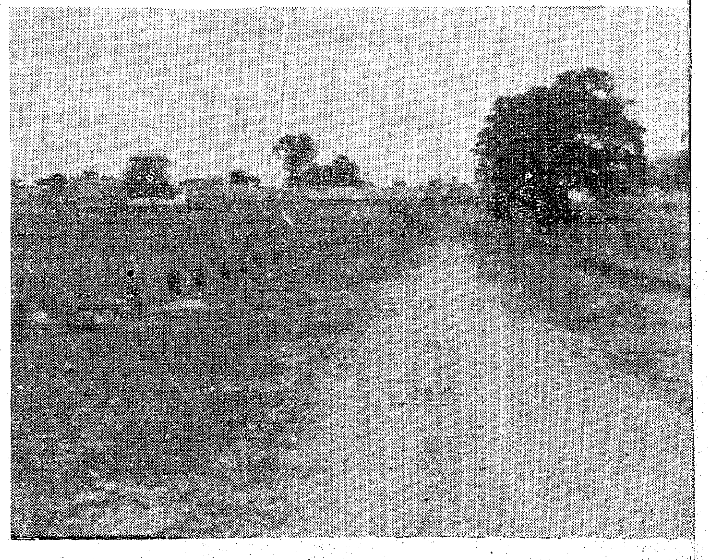
men at work



difficult terrain



the road on top



a European or Anglo-Indian settler would no longer have to deny himself the benefit of married life for fear that his wife might run back to her parents in the plains below not being able to bear the isolation on the hills. Also, the farmer selling his stock need no longer be at the mercy of the lone bidder who comes up the hills and buys produce at the price he lays down secure in the certainty that the planter would be reluctant to undertake the arduous task of taking the produce downhill where however he could get a better price for it. The opening of the road puts a vitally different complexion on life in Yelagiri and opens up prospects of speedy communication and commerce and possiblities of a larger social life. Thus Yelagiri should be very much in the news before long.

Health Resort Too

Another interesting aspect of life in the Yelagiri hills is the longevity of life there to which many vouch. In fact a 100-year woman who posed for a photograph walked away after being snapped with steps so brisk that many less than half her age might surely have envied.

A dryness in the climate coupled with the unruffled pace of living in Yelagiri makes it suitable for development as a health resort too. Lung ailments are absent and the place is remarkably free from Malaria though one might naturally have expected its prevalence there.

It was originally proposed to form an earthen road only to ease the problem of transporting forest and hill produce for marketing at the nearby towns of Jalarpet, Vaniambadi and Tirupattur. The hill people were resorting to head-loads and pack animals and making use of four bridle paths to reach the plains for trade and other purposes.

Tourist house

But the earthern road idea was given up with the growing realisation of the possibilities of developing Yelagiri as a tourist centre, in favour of a pucca metalled motorable road with black topping that is now coming up. An amount of Rs. 16·40 lakhs was sanctioned for the road work and this also included the construction of a rest-house at the hill top at a cost of Rs. 40,000. The site for the rest-house has been decided. The metalled road is in process of completion. The road project includes cross drainage works, construction of three minor bridges, three road dams and thirteen hair-pin bends.

A well has been proposed at a site in the middle portion of the ghat road to meet the needs of visitors and travellers who may need water for filling up radiators of cars and for the benefit of lorry traffic.

Pretty picture

The view of the ghat road 'presentation' from the distance is one of the clearest of such works from the visual point of view. One can see the road tearing across the hills up to the tenth of the thirteen hair-pin bends which is indeed very remarkable. When the benefit of electricity is taken to Yelagiri this ghat road formation should present a very ornamental and pretty picture in the nights.

Numerous hill stations are there in South India, all of them designed to meet the requirements of the affluent classes of people. But not all can afford trips to places like Ooty, Yercaud, Coonoor, Kotagiri or Kodaikanal. A hill station for people with moderate means within easy reach from the city has been a long-felt need. Perhaps, with progressive development, Yelagiri which is only 140 miles from the city might fill the bill in this regard.

HoweverYelagiri has a long way to go before it can attract the holiday maker. The benefits of power water-supply and other amenities have to be provided and tourist angles investigated and developed. Government is expending efforts in this direction. The ghat road to Yelagiri marks a significant beginning.

Fish Production in 1960

Fish production in India during 1960 was the highest ever recorded. The total fish yield both from the sea and inland water, amounted to well over 14 lakh tons. This was the target set for the final year of the Second Five-Year Plan. Sea fish landings were about 8·8 lakh metric tons. The marketable surplus of inland catches amounted to nearly 2·8 lakh tons. There were also yields from inland water and small ponds. There were excellent yields of Sardines and Mackerol. Mechanisation of fishing craft and the introduction of synthetic fibres like nylon were mainly responsible for the marine production. Inland fisheries received impetus by the introduction of a new variety of quick-growing fish called the " Common Carp " from the Far East.

Research on Communicable Diseases

After the recent decision that the Indian Council of Medical Research should concentrate its research efforts on health problems of national importance, top priority is being given to research in communicable diseases like cholera, tuberculosis, leprosy, trachoma, poliomyelitis, filariasis, etc.

For the first time cholera has been successfully transmitted to animals, young rabbits, and this achievement has provided a new tool for experimental work in elucidating the pathogenesis and for screening drugs in the treatment of the disease.

In a recent survey conducted on a nationwide basis, it was estimated that the total number of 'active' and 'probably active' cases of pulmonary tuberculosis alone would amount to five million in the country. With the lengthy and expensive schedules of present-day chemotherapy and with limited hospital facilities, the control of the disease poses a practical problem.

T.B. Chemotheraphy Project

The T.B. Chemotherapy Project at Madras has made studies of domiciliary treatment of these cases and these studies have revealed that cases treated at home, in spite of inherent defects, responded as well as cases treated in sanatoria. An important observation has been that family contacts of patients treated at home were exposed to no greater risk of infection than those treated in sanatoria. In devising control measures, those findings are of significance not only to India but also to other developing countries with similar local problems.

In leprosy the relationship between the fundamental pathology of deformity and the secondary exciting factors has been investigated. Methods of prevention of deformity are being explored and methods have been devised for repair and reconstruction of deformed faces and limbs. The results of reconstruction surgery of feet have been analysed and a new method of balancing the feet in a lateral direction has been developed.

B.C.G. and Leprosy

An organism simulating leprosy bacillus, both morphologically and immunologically, has been grown for the first time in special tissue cultures. Evidence has been collected to show that experimental transmission of human leprosy to certain animals is possible. These results, if confirmed, will provide new tools for research. A promising observation which requires a detailed study is the claim that B.C.G. vaccination confers immunity against leprosy. Plans are now being drawn to exploit the prophylactic potentialities, if any, of sulphone therapy and B.C.G. vaccination among the contacts of leprosy patients.

A survey of the incidence of trachoma as a part of Trachoma Pilot Project activities has been made. Simple and effective treatment schedules for the control of this disease have been evolved and are being tested.

The Indian Council of Medical Research has in recent years enlarged scope of research in the field of virus diseases. The poliomyelities research unit at Bombay, besides carrying out investigations on several aspects of the disease, has also undertaken the training of a number of persons (in the general technique of polio work) and has supplied virus strains, to various laboratories in India.

Fighting Trachoma

Tests on human volunteers of a new vaccine which has already successfully immunized baboons against a trachoma-like infection will soon begin in London. Details of the experiments are given in the annual report of St. John's Ophthalmic Hospital, Jerusalem, by Sir Stewart Duke-Elder—Hospitaller, world-famous eye specialist, and research director of the Institute of Ophthalmology.

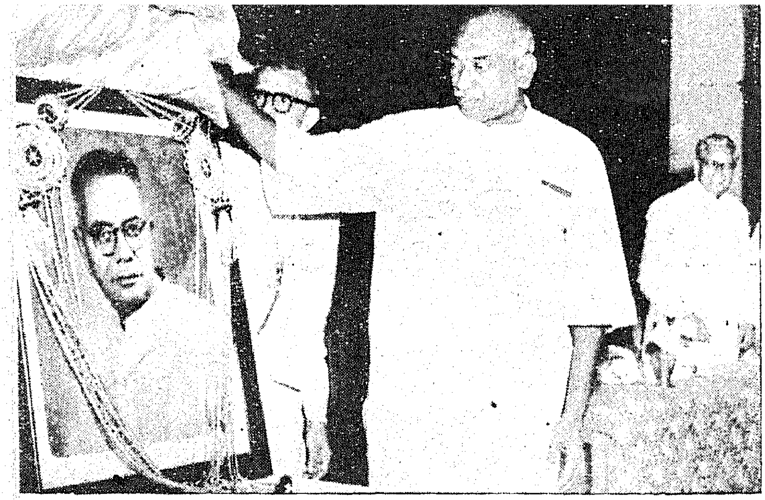
"A vaccine has now been evolved which will prevent the development of infection in baboons," he writes, "immunizing them against inoculation with large doses of virus so nearly related to trachoma as to be indistinguishable from it in the laboratory.

This is an immense step forward, and holds out the expectation that a vaccine which will protect humans against trachoma will eventually be evolved.

"Research of this type, if it is to be conducted on scientific principles, is a long process, but the time may not be far distant when our hospital in Jerusalem will be in a position to play the main part in a campaign against trachoma which may well eliminate one of the greatest medical and social scourges of the Middle East."

New Hearts for Old

The surgeon's dream—a bank of spare hearts, kidneys, or lungs from which to draw replacements for damaged,



Chief Minister Kamaraj recently unveiled a portrait of Sri T. T. Krishnamachari, former Union Finance Minister, at a function held under the auspices of the Small-Scale Industries Association at St. Mary's Hall.

diseased, or worn-out organs—is perhaps one step nearer realization as a result of a discovery made by scientists at the National Institute for Medical Research, London.

The scientists have been working on the problem of protecting tissue from damage during deep-freeze storage. They found that a simple chemical compound, dimethyl sulphoxide, was better than the substance now used (glycerol) in preventing damage in deep-frozen mouse bone marrow.

Since 1949, a wide variety of living cells and tissues, including human red-blood cells and eye tissue, have been protected with glycerol, banked at the institute at very low temperatures and subsequently thawed out and used successfully in transfusions and grafts. Successful long-term cold storage of whole organs, such as hearts, depends on no damage being done to the capillaries in those organs while they are frozen.

Dr. Audrey Smith, at the institute, has recently compared the effects of both glycerol and the new protective agent on the circulation of the blood in the capillaries of live animals. Using film techniques, she showed clearly that the new agent had less effect on stopping blood flow, and caused less wall damage to capillaries, than did glycerol. It may now be possible to store whole organs under deep-freeze satisfactorily, but the problem still remains of getting one creature to accept a replacement organ from another.

The results of experiments with mouse bone marrow are important because human bone marrow can now be deep-freeze banked even more satisfactorily, and should give even better results when used to treat, for example, side-effects arising from radiation treatment of cancer.

Results were obtained by suspending mouse bone marrow cells in both glycerol and solutions of the new agent, deep-freezing both, and subjecting the thawed-out material to microscopic examination and to tests in irradiated mice. Under the microscope it could be seen that many more cells in the new agent solution remained alive. When injected into the veins of mice given normally fatal doses of radiation, marrow cells protected with the new agent enabled a higher proportion of mice to live to a ripe old age.

Children's Heart disorders

A hi-fi recorder to detect heart disorders in children has proved highly accurate in mass trials here. The machine tape records heart beats, then amplifies the sound through a special hi-fidelity system to produce clear "playbacks" that are easily interpreted by heart specialists. The American Heart Association has verified the device as 91 per cent accurate in a test of 33,026 Chicago school children.

The machine's accuracy ranks with the best public health detection techniques in any field, including chest X-rays to discover tuberculosis, according to Dr. Oglesby Paul, President of the American Heart Association.

The recorder was built by Joel Willard, a Chicago recording expert. He said the key problem to overcome was to boost the sound of the heart's "flub-dub" and to get rid of extraneous sounds associated with amplification.

A method for repairing blood vessels without using stitches has been developed at the University of Texas M. D. Anderson Hospital and Tumour Institute. Doctors there "glue" the incision together with liquid plastic. So far their experiments have all been on dogs, with no adverse reactions, they report. The veins heal together within two weeks, and the plastic adhesive gradually disappears.

Smokeless Domestic Fuel

Smokeless domestic fuel can be obtained from Neyveli Lignite according to pilot plant studies carried out by the Lignite Project authorities. Compared with charcoal, processed lignite brings sbout 1·25 per cent saving in domestic fuel consumption. The by-products, obtained in the course of processing lignite are chemical-grade phenols, cresols and zylenols as well as char dust. Char dust can be used as fuel in the cement and brick industry.

Science in the news

[Numerous scientific developments, new techniques and improved devices are steadily emerging in this Age of Science to lighten the burden of the common artisan, housewife, the small businessman and the big industrialist. This feature notes such developments. Apart from Indian scientific advances, interesting bits from Britain and the United States are also included.]

One of the significant developments in the field of power generation in 1960–61 is the harnessing of hill streams fed by glaciers, producing enough electric power for groups of villages in remote areas in the country.

During the Second Plan a micro or baby hydel set was installed at Chaila, in Himachal Pradesh, on an experimental basis, for harnessing the waters of the Giriganga, about 18 miles from Simla. This power house has been meeting the demands for electricity from the nearby villages, and a second set is being installed in the Bharmour valley in Chamba district and another is being planned for Chini in 1961–62. In the Third Plan period, it is proposed to instal 13 micro sets in Himachal Pradesh.

The head required for these micro sets is low—a maximum of 25 feet with adequate water flow. An attempt is being made to use timber planks for penstocks instead of cement and steel and assemble and erect them at site. These stations would operate either unattended or attended by junior line staff for continuity of supply.

Aluminised Steel

The National Metallurgical Laboratory, Jamshedpur, has developed a new process for aluminising steel surfaces thus providing corrosion and heat resistance properties to such surfaces.

Aluminised steel could be used to replace galvanized steel in sheet, strip, wire, tube and hard-ware coating plants as the import of zinc for galvanizing forms a serious drain on India's foreign exchange resources. About 30,000 tons of zinc per year, representing more than half the total annual imports, are employed for galvanizing steel sheets and other ferrous products.

Aluminised steel has bright prospects of replacing galvanized steel in commercial and farm buildings, rolling shutters and silo covers because aluminium coatings are much superior to zinc coatings when exposed to industrial and highly humid atmospheres. Resistance to fire damage is also better in aluminised steel as compared to galvanized steel.

Most of the raw materials for aluminising steel such as hydrochloric acid, linseed oil and commercial aluminium are available in India.

Cryolite manufacture

The National Metallurgical Laboratory, Jamshedpur, has undertaken investigations for the manufacture of cryolite which is one of the essential minerals required in the steel ceramic and aluminium industries.

Cryolite is not found in India and is imported from Denmark and Greenland. The annual imports total about 7,500 tons.

The laboratory is investigating the possibility of producing cryolite from low grade fluorspar containing a high percentage of silica. Fluorspar of this type is available in Rajasthan, Madhya Pradesh and Bombay.

High grade cryolite can be obtained by the interaction of metallurgical-grade fluorspar with sulphuric acid and boric acid through the intermediate formation of fluoboric acid and subsequent precipitation of cryolite by the interaction of fluoboric acid with hydrated alumina sodium and carbonate. In the process, boric acid can be re-generated and re-used. High grade gypsum is also obtained as a by-product.

The National Physical Laboratory has developed two new processes for the manufacture from indigenous raw materials of magnetic fluid used in the detection of cracks in ferrous metals. Hitherto, such fluids were being imported from abroad. The cost of manufacture in India has been estimated at Rs. 1·00 per litre.

The two processes consist in preparing magnetic iron oxide from either magnetite ore or ferrous sulphate and oxalic acid. For making magnetic fluid, the iron oxide is mixed with aluminium stearate, calcium oleate and distilled kerosene oil in requisite proportions.

The capital outlay for a plant of 500 kg. per month capacity is estimated at Rs. 10,000 with a running cost (including raw material, labour, depreciation, etc.) of about Rs. 5 per kg.

Camphor Distillation

The Forest Research Institute, Dehra Dun, has devised a plant for the distillation of camphor from the leaves of camphor-yielding Ocimum by a cheap cottage-scale unit without the use of a steam boiler. The unit, which can be easily fabricated, can be worked in places where tap water is available. A suitable modification of the unit for use in areas where tap water is not available has also been made. A battery of three such units will cost about Rs. 500 including all accessories required for its operation. One man can conveniently operate three units.

Details of the fabrication of the distillation plant, its working and economics, are described in the Indian Forest Bulletin No. 210, published by the Manager of Publications, Civil Lines, Delhi.

Indigenous Pectin

A process on pectin and tartarate from tamarind fruit pulp has recently been developed at the Central Food Technological Research Institute, Mysore. Tartaric acid and its salts like potassium sodium tartarate are extensively in use in various food, pharmaceutical and chemical industries. Pectin is used for the manufacture of fruit products like jams, jellies, preserves and marmalades. Indigenous manufacture of tartaric acid, its salts and pectin is expected to effect considerable saving in foreign exchange.

Both liquid and powder pectin samples were tried in jam batches of raspberry, straw-berry, grapes, etc. The pectin was found to be suitable for the purpose.

The major raw material required for the process is tamarind fruit pulp which is available in the country. Other raw materials, alcohol, potassium carbonate, hydrochloric acid and sulphuric acid are also readily available in India.

Tamarind grows extensively in India, in both cultivated and wild forms. About 300,000 tons of tamarind pulp are available every year. The pulp contains 12—15 per cent tartaric acid and 2·5—3 per cent pectin. The acid pulp of the ripe fruit is used mostly for culinary purposes and recovery of pectin and tartarates has not been attempted so far.

Tartarates from Tamarind

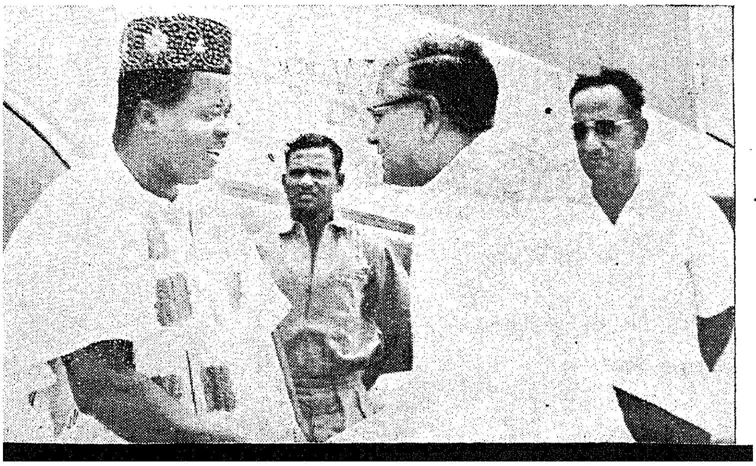
In foreign countries tartaric acid and its salts are obtained as a by-product of the wine industry. An alternate raw material for pectin available in India is citrus peel in which it is present to the extent of 3—4 per cent.

Working on the utilization of tamarind fruit pulp, Central Food Technological Research Institute has developed a process for recovering pectin and tartarates from the pulp. The tamarind pulp is extracted with hot water and the extract obtained by centrifuging the boiled slurry. The extract is concentrated in an evaporator. Pectin is precipitated by adding alcohol to the extract from which tartarates have been previously removed.

The process has been studied on a semi-pilot plant scale using up to 112 lb. of pulp per batch. During these experiments recoveries of the various products were pectin 2·8—3 per cent, tartarates 12—13 per cent and invert sugars 25—30 per cent on pulp.

Plant and machinery required for the process consists of centrifuges, double effect evaporator, filter press, drier, ball mill, vibrating screen, distillation column, boiler, wooden vats and storage tanks. Total capital outlay for a plant producing 310 lb. of Rochelle salt and 50 lb. of pectin per day is estimated at about Rs. 5 lakhs.

Dr. M. S. Ocpara, Premier of the Eastern region of Nigeria, who visited the City recently was greeted on arrival at the airport by Industries Minister Venkataraman.



A new and promising process for desalting sea or other briny water to get drinking water has been developed by Research Engineers Sidney Loeb and Srinivasa Sourirajan at the University of California at Los Angeles (UCLA). The pair has successfully tested a special membrane with a large number of tiny pores that separate the salt from the potable water.

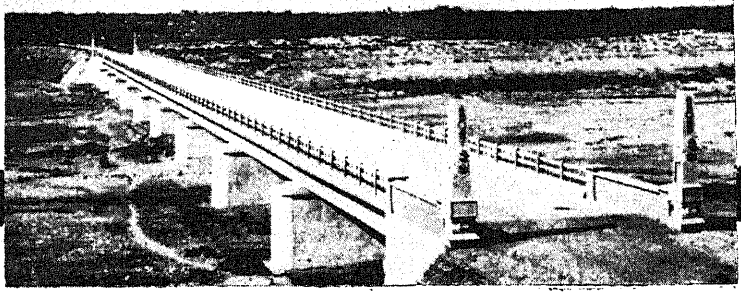
To make their film the UCLA engineers mix cellulose acetate with an aqueous magnesium perchlorate solution and acetone and then cast the sticky mixture cold on a glass plate. The plate is immersed in cold water, after which a film four-thousands of an inch thick is stripped from it and shrunk slightly in hot water. The finished membrane, mounted on each side of a porous steel disk, can filter water 100 times faster than previous commercial films. A large number of disks are stacked in a frame press and salt water circulated through the unit at 1,000 pounds per square inch pressure. Desalted water flows from the bottom of the unit.

At present the two engineers get potable water at the rate of eight gallons a day per square foot of membrane area from a single filtering of a 5·25 per cent salt concentration, much saltier than sea-water. They expect improvements to do better but believe that even under present circumstances the process promises an improved desalting operation, because the film is cheap and durable, equipment simple, operation can go on 24 hours a day without maintenance, and power requirements are as low as those of any desalinisation process.

Chief Minister Kamaraj recently declared open the Satyyamurti High School of the Bala Mandir, T'Nagar.

Development of Scientific Instruments

Seven new scientific instruments have been developed in Indian Laboratories. The first, an electronic salinity meter, developed at the Geophysics Department of the Andhra University helps in the quick determination of the saline content of rain water. A simple and highly sensitive light weight electrical thermometer,useful in oceanographic studies has also been developed there. A low cast instrument for accurate determination of the concentration of air under conditions of high turbulent flow is reported from the Department of Civil and Hydraulic Engineering, Indian Institute of Science, Bangalore. An improved design of a detector useful in the detection of nuclear radiation is reported from the Atomic Energy Establishment, Bombay. Two interesting instruments have been developed as a result of research sponsored by the Hyderabad Science Society. One is used for measuring bullet velocities and the other for measuring short intervals of time of the order of 1/100000th of a second. The Technological Research Laboratories of the Indian Central Jute Committee, Calcutta, have designed and fabricated an instrument which enables the measurement of the hardness modulus of individual filaments of textile materials.



Bridge across the Marudayar

[Sri P. Kakkan, Minister for Works, opened the Bridge across the Marudayar river at mile 96/7-8 of Koilpatti-Tirumanur road in June this year. Built at a cost of Rs. 7·6 lakhs, the bridge has a breadth of 24 feet and is strong enough to permit a tank traffic across it. The Chief Engineer (Highways and Rural Works), who welcomed the Minister and others referred to the vagaries and the fury of the floods of the Marudayar river and explained that the site of the bridge had been finally decided only after taking into consideration all the useful observations made by the Committee of expert bridge engineers appointed to examine the problem of floods from the river in the particular area. He also gave an account of the progress of Highways works in Tiruchirappalli district on the occasion. This article gives the substance of his statement including some technical details of the bridge]

The opening of the bridge across the Marudayar river at mile 96/7–8 of Koilpatti-Tirumanur Road has marked the completion of the third major communication link in Tiruchirappalli district after Independance, the first and second being the Cauvery Bridge near Pugalur on the Benares-Cape Comorin Road and bridge across river Marudayar at mile 38/4 of Tiruchy—Chidambaram road respectively.

The Marudayar river which takes its origin from the high lands in Perambalur taluk and which crosses Koilpatti-Tirumanur Road at mile 96/7-8 gets flooded during heavy rains.

Vagaries

The vagaries and the fury of its floods have always been unexpected. Even after a few hours of rain in its catchment the river in the present site of the crossing used to get flooded and bring traffic to a stand-still without notice.

The floods of this river caused the saddest of the calamities in one of the worst known Railway disasters in living memory in South India, whereby 147 human lives were lost. The railway bridge itself was damaged and the old road bridge at this site was also badly damaged. A special Committee of expert bridge engineers was appointed to go into the behaviour of this river during floods and the Committee had made several interesting and useful observations. Taking a lesson from the trend of events which no amount of theoretical calculation could foretell, the site was changed to a new position 400 feet downstream with adequate waterway so as to satisfy all technical considerations.

Striving Hard

The Koilpatti-Tirumanur road which starts in Koilpatt on Tiruchy—Viralimalai—Madurai road, runs through Manapparai, Kulittalai, Musiri, Turaiyur, Perambalur, Ariyalur and goes up to Manamadurai (via) Tirumanur, Thanjavur and Pudukkottai and the stretch of road from Perambalur is classed as State Highways and the total length of the road in this district is only 31 miles and four furlongs.

It is also to be emphasized in this connection that it is increasingly realised by one and all that sooner the rural net-work of roads is established, the greater and faster will be the pace of economic and social development. A good communication will facilitate cultural contacts, stimulate the growth of trade and commerce and generally tend to increase the prosperity of the country as a whole. With this object in view, the Highways and Rural Works

Department was formed in 1946 solely for the formation and maintenance of communications. Ever since it inception, this department has been striving hard to achieve the objects that the department was intended to fulfil.

Tiruchirappalli district is one of the earliest to get its main roads black-topped. The present total mileage of roads in this district is 2,837 miles and this will be doubled during the course of another 20 years. The achievements from the commencement of the First Plan up to date in this district are 12 miles of cement concrete, 616 miles of black-top roads, 113 miles of new metalling, 916 miles of new formation and construction of 8 major bridges and 11 numbers of improvement works including minor bridges and culverts, etc.

Technical Details

The construction of the bridge across Marudayar on Tiruchirappalli-Chidambaram road six miles downstream was completed and thrown open for traffic in 1959. Another bridge across the Coleroon river as the link with Thanjavur district and the execution of the Cauvery Bridge adopting the most modern techniques of pre-stressed concrete on the Tiruchirappalli-Srirangam bye-pass were some of the schemes sanctioned during the Second Plan period. With the completion of the schemes proposed in the Third Plan, the road communication facilities in this district will reach a very high degree of development.

The bridge across the Marudayar on the Koilpatti-Tirumanur road consists of 9 spans of 60′ each and is designed for I.R.C. A.A. Class loading with a roadway of

Governor Bishnuram Medhi planting a sapling at Raj Bhavan in observance of Vanamahotsava festival.

24′0″ between kerb. The bridge has been constructed with circular well foundations of 12′0″ external diameter taken down from 14′ to 28′ below bed level and seated on rock. The substructure is of mass concrete 1 : 3 : 6 with 20 per cent plums and the superstructure consists of reinforced concrete Tee beams with cross beams and deck slabs. About 256 tons of steel and 899 tons of cement have been used on the work. The final cost of the construction of the bridge is expected to come to Rs. 7,60,000 against the estimated cost of Rs. 8,00,000 and a sum of Rs. 40,000 may be the savings effected on the estimated cost.

Progress of Civil Aviation

Air India International and the Indian Airlines Corporation carried more passengers, cargo and mail during the second half of last year than in the first. A review of the progress of civil aviation during that period shows that Air India International flew on its scheduled services more than 65 lakh kilometers. The number of passengers also showed an increase from over 47,163 to 65,101. Air India International introduced a weekly service on the route Bombay–Karachi–Bahrein—Kuwait and started operating a cargo service to London with their own Super-Constellation aircraft. Indian Airlines Corporation introduced non-stop services between Delhi and Kathmandu and Calcutta and Kathmandu. A direct service between Delhi and Rajkot was provided. The east-west runway at Bombay (Santa Cruz) airport was extended and opened to use by Boeing jet aircraft. The fourth prototype of the two-seater Asvini glider was completed and test-flown successfully. Air transport agreements were signed between the Government of India and the Governments of Iran and the Republic of Czechoslovakia.

Sharing fruits of Research across the World

[That Science goes beyond national frontiers is amply demonstrated by the work of the Commonwealth Scientific office which, from headquarters in London, channels the fruits of scientific research across the world. In this article Keith Bean gives an account of the working of this agency which has not had the publicity that efforts stemming from United Nation Agencies and from regional arrangements like the Colombo Plan have enjoyed.]

Science goes beyond national frontiers. It is a truism which, in the light of the secrecy sometimes dictated by security, may seen questionable. But its truth is daily demonstrated in the great international drives to rid the world of malaria and other diseases, to conquer hunger by better husbandry.

Many of these efforts stem from United Nations agencies and from regional arrangements like the Colombo Plan. Less publicized are the British Commonwealth Scientific Offices (BCSO) which, from headquarters in London, channel the fruits of research across the world.

Significantly, this is one of those links which countries emerging into full nationhood do not want to break. Here on one floor of the headquarters building in London are scientific officers of India, Pakistan, and the Federation of Rhodesia and Nyasaland as well as of Canada, Australia and New Zealand.

Varied and comprehensive

Ghana and the Federation of Malaya have recently accepted an invitation to take part in BCSO activities, and Nigeria, Cyprus, and Sierra Leone have been invited to join. Ceylon maintains scientific liaison. Thus here is a body which brings research men together in co-operation closer than political or constitutional links.

But the benefits are not confined to Commonwealth countries. Recently, for example, a South American republic asked its embassy in London for documentation on the improvement of pasture lands. Since Australia, the least fertile of the continents, has had to face this problem, the query went to the Australian liaison officer at BCSO headquarters—and field work in one country is making for better living in another half a world away.

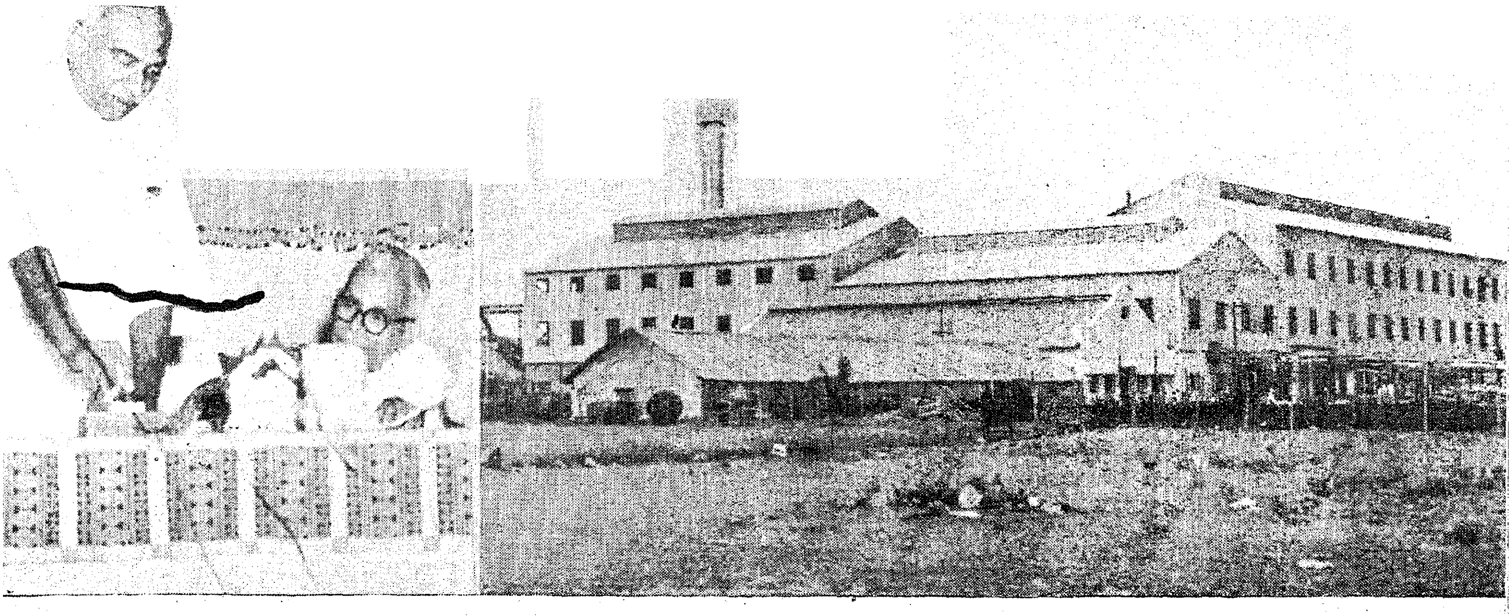
The information which flows into BCSO is as varied and comprehensive as the field of its outflow, for here, too., are a Commonwealth geological liaison officer and the oversea liaison group of Britain's Department of Scientific and Industrial Research, which maintains scientific attaches in Russia, North America, France, Germany, Scandinavia, and India and is appointing a representative in Japan. The world picture is completed by BCSO (North America,) covering Canada and the United States. And on the British Commonwealth Scientific Committee, under whose aegis BCSO operates, the United Kingdom is represented by the Department of Scientific and Industrial Research, the Medical Research Council, the Agricultural Research Council, the Nature Conservancy, and the Colonial Office, and other Commonwealth countries by the heads of their national research organizations.

Pool of knowledge

No country has enough research men, but in BCSO there are means for each member country to draw on the work done in any or all of the others, and to know about the research going on in the world at large.

BCSO has directories of species in the culture collections of micro-organisms throughout the Commonwealth. Its index of translations of scientific works cuts out duplication

Chappals specially designed and manufactured for the use of hand-cart pullers by the Central Leather Research Institute were distributed to a deserving group by Sri J. Krishnaraj, Deputy Commissioner of Police, Law and Order.



Chief Minister Kamaraj recently inaugurated the Madurantakam Co-operative Sugar Mills, at Padalam near Madurantakam.

in translating, so that documents, say, published in German and translated in England are freely available in Hong Kong. It also circulates a wide range of other information.

Between individual liaison officers there is a full and constant interchange on almost everything from aeronautics to zoology.

Obviously no country can find in one man a geologist, a botanist, a chemist, an engineer, and a meteorologist, but this collection of a dozen liaison officers musters a formidable variety of knowledge in different scientific disciplines.

Each country differs from the others in the stage of its scientific development. Some, where scientific research of the basic type hardly exists yet, will obviously raise questions very different from those from a scientifically developed country.

Weekly Bulletins

Canada's industrial interest, for example, will be in advanced processes, and agriculturally she will have specialist speaking to specialist. In younger countries, planners will be thinking of avenues of development, and questions on science will begin often at the most elementary stages.

On the best level of co-operation, a Canadian representative said, " you can walk into any laboratory in Britain and find that what its opposite number in Canada is doing is already known. And integration of our joint efforts is so close that it is sometimes impossible to say who started a particular piece of work ".

By-weekly bulletins on " current interests ", liaison officers indicate the subjects they want to know about and their colleagues from other countries rally with information.

India asked for detailed studies on concrete railway sleepers. The United Kingdom and Canada are both able to supply them.

Reciprocally, India provides answers when Canada seeks information on accelerated weathering tests for paints.

Preventing Duplication

On paints too, the British Iron and Steel Federation has a query. It asks Australia about its investigations of painting galvanized-iron farm buildings and its effects on farm products. The Australian liaison officer checks back with his homeland, where building-research men are able to recommend appropriate reports on this subject.

Australia provides the Federation of Rhodesia and Nyasaland with information on the reduction of evaporation from dams and reservoirs, and details of its work on sealing earth dams with sodium tripolyphosphate Britain and Canada give the Federation the latest details of cobalt and caesium radiotherapy equipment.

Here, then, are some examples of BCSO co-operation.

There is never enough money for research, and few countries can follow up all the lines they want to. It has to be selective. Liaison is one way of preventing wasteful duplication of effort and the pursuit of lines of research already proved fruitless.

It means that the common flow of new knowledge is exploited for the benefit of all.—BIS.

Project to Settle Educated Unemployed

*[The experiment in settling the educated unemployed now under way at the Work-*cum*-Orientation centre at Kalyani in West Bengal draws its inspiration from the fact that similar schemes have worked out with considerable success at Denmark, West Germany and Israel. The results so far achieved by the centre in training the educated unemployed to get them settled in life have been encouraging. This article gives an account of the work of the centre]*

An experiment in solving the problem of educated unemployed is under way at the Work-*cum*-Orientation Centre at Kalyani, about 35 miles east of Calcutta in West Bengal. The report of the Study Group on Educated Unemployed set up by the Planning Commission in 1956 had suggested various schemes for relieving unemployment among the educated young persons. The establishment of work and orientation camps all over the country was one of the suggestions.

The Planning Commission observed: " Frustration caused by a series of disappointments in the matter of job finding can have as harmful an effect as permanent unemployment itself. From the day of passing out his examination to the day he becomes age-barred, an educated young man has to knock at dozen doors often for exactly similar posts. The lucky one may get in eventually while for the rest the years of fruitless search would have proved completely wasted years which might have been more profitably spent in other vocations, if some indications were available earlier that there was no hope of their absorption in white collar jobs ".

Comprehensive Training

The Work-*cum*-Orientation Centre was set up at Kalyani in 1958 to tackle the problem of educated unemployed in West Bengal. There are about 125,000 educated unemployed persons in the State, according to statistics maintained by Employment Exchanges.

Of this number, about 67 per cent are matriculates, 21 per cent intermediates and 12 per cent graduates. It is estimated that not more than 30 per cent of this group have any technical or professional qualifications and another 20 per cent have no job experience. So about 62,000 educated unemployed persons who are for practical purposes freshers, are yet to be settled in life.

To increase the employability and capacity of educated unemployed persons for self-employment, a six-month training in different trades is imparted to the young men who are admitted to the Centre.

The course includes training in woodcraft, building and mason work including brick manufacture; light mechanics such as repair of cycles, stoves, petromax, sewing machines, repair of household electrical appliances including wiring and battery charging, manufacture of storage batteries, sheet metal and gas welding.

New outlook

It orientates the trainees not to seek " White collar jobs ", but to do even manual work, if necessary. With elementary training in business management, co-operative principles, small-scale industries, and agricultural operations, the youngmen who have wasted precious years get back their self-reliance to start life afresh. Training in community living, disciplined corporate life and Shramdan inculcates in them dignity of labour.

One hundred and fifty candidates are admitted in each course. Among the qualifications laid down for admission to the centre are, first, a candidate must be unemployed for at least two years, and secondly, he must be between 15 and 30 years of age. Further, he must have passed the matriculation examination but must not be a graduate. During the period of training each trainee gets a scholarship of Rs. 40 per month.

The Student Specials run by the State Transport Department are very popular. Picture shows an orderly group of girl students who had queued up for a bus boarding it.

Since the inception of the Centre, 702 young men have passed out in five batches in different trades.

According to a survey conducted by the Centre, it has been found that 38 per cent of the boys, who passed out of the Centre, are now engaged in co-operatives, 18 per cent in miscellaneous jobs, 12 per cent go for further training in different trades, and 5 per cent serve as apprentices in various fields. Twenty-five per cent are either under-employed or unemployed.

Spirit of Adventure

The formation of seven co-operative societies by the passed-out trainees may not be anything in terms of money or membership. But it symbolises a new spirit of adventure among the young men who have suffered a prolonged period of unemployment and frustrations shattering their morale. With a capital outlay of over Rs. 15,000 and with a membership of about 238, the seven co-operatives deal with manufacture of sheet metal articles, production of batteries, bricks, furniture, repair and installation work, and multi-purpose agricultural activities.

The Government of India bear 60 per cent of the expenditure, while the rest is met by the State Government.

Despite heavy odds, the results of co-operatives have generated unprecedented enthusiasm among the young men. They are not making 'huge profits' but just well enough to carry on.

Promising Future

Professor Peter Kuentsler of the Oxford University, who visited the Centre in the very first year of its inception, was highly impressed with the 'quality of the staff of the Centre'. The Professor attached great importance to the undertaking of an effective "follow-up and after-care service". He also wondered whether any thought had been given to the possibility of starting a small-scale experimental training of this kind for educated girls.

Though the Kalyani Centre started against the background of the closure of two similar centres at Delhi and Kerala, it has held out a big promise for the future. It draws its inspiration from the fact that Denmark, West Germany and Israel have worked out similar schemes with considerable success. And the results so far achieved convince the authorities that the Centre would play a vital role in the training of the educated unemployed to get t settled in life.

Study Abroad

Information about nearly 100,000 opportunities for studying abroad through fellowships, scholarships and educational exchange programmes is given in a recent edition of a manual entitled Study Abroad, brought out by the UNESCO under its International Exchange of Persons Services Programme.

A summary of the findings of the Survey of International Relations and Exchanges in the field of education, science and culture, and the report of the Eighth Survey of Foreign Students Enrolment in institutions of higher education throughout the world is also contained in the manual.

The UNESCO's programme under which these publications have been brought out intends to develop mutual understanding and co-operation between nations through contact and exchange of experience. It also seeks to provide opportunities for acquiring knowledge and skills not available at home.

Aid to Indigent Artistes

The Madras State Sangita Nataka Sangam has decided to give for 1960–61 also grants-in-aid to aged artistes of outstanding merit who have rendered appreciable service in the field of drama, dance or music, but are now in indigent circumstances. Each of them will be paid Rs. 50 per month as subsistence allowance. The implementation of this scheme for grant-in-aid to aged indigent artistes commenced with 12 artistes in the year 1956–57 and their number was successively increased to 15 in the second year, 17 in the third year, 25 in the fourth and fifth years, and 30 in the sixth year.

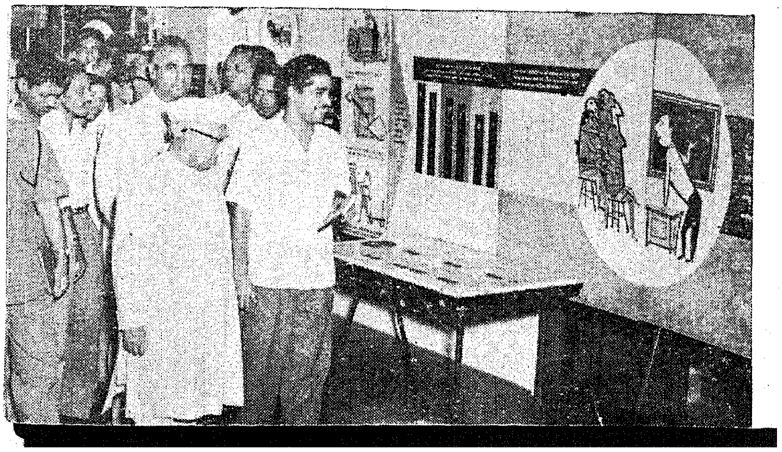
The following 30 artistes (with their age in brackets) have been chosen for grant-in-aid for 1961–62.

Drama Actors.—C. G. Nammalwar Reddy, Madras (78); P. Jayalakshmi, Madurai (52) ; M. Ramaswamy Mudaliar, Salem (75) ; A. Sundaram, Ellaipatti, Madurai district (69) ; T. S. Kutralalingam Pillai, Achampatti, Madurai district (63) ; Raja Shanmuga Doss, Madurai (70) ; M. R. Balakrishna Naidu, Nemmeli, Chingleput district (73); Joker Ramudu, Madras (66) ; I. Krishnamachari, Madras (66) ; C. K. Gopal Pillai, Madras (62) ; V. N. Sornathammal, Madurai (56) ;

Dancers.—Muthurathnambal, Tirunelveli Town (68) ; N. M. Muthuswamy Nattuvanar, Piranmalai, Ramanathapuram district (65); Andalammal, Thanjavur (66); Cheiyoor Jagadambal, Big Kancheepuram (78).

Musicians.—V. Guruswamy Pillai, Nadaswaram, Pandanallur (86) ; K. V. Ramaswamy Iyer, Violin, Dharapuram (69) ; Apathsahaya Sastrigal, Violin, Madras (71) ; S. Rathnavelu Pillai, Mridangam, Mayuram (66) ; Sethuraja Pillai, Thavil, Ramanathapuram (67) ; T. S. Rangammal, Vocal, Mannargudi (68) ; Tiruvizhimazhalai Gopalu Pillai, Nadaswaram, Tiruvizhimazhalai (84) ; Chinniah alias Ramaswamy Pillai, Thavil, Tirukkadaiyur (61) ; C. M. Rajarathna Mudaliar, Violin, Cheyyoor, Chingleput district (64) ; Tiruvarur Subbier, Violin, Mannargudi (69) ; S. G. Kasi Iyer, Sangita Vidwan, Madras (62) ; K. Sethur Sundaresa Battar, Violin, Madurai (68) ; A. K. Subbier, Jalatharangam, Tiruppur (80) ; T. V. Parthasarathi Naidu, Kancheera, Madras (65) ; K. Balakrishna Pillai, Nadaswaram, Kovilpatti (68).

Governor Bishnuram Medhi witnessing a section of the exhibits at the recent exhibition organized by the Madras Productivity Council. The Governor inaugurated the exhibition.



Nattuvangam Scholarships

With a view to relieve to some extent the paucity of qualified Nattuvanars-*cum*-Dance Teachers for providing sound training in Bharata Natya, for which there is growing demand, the Madras State Sangitha Nataka Sangam has instituted a Scheme of Scholarships for training in Nattuvangam. According to the scheme, four candidates with sound knowledge of Classical Karnataka Music with sure '*Swaragnana*' and '*Layagnana*' have been selected after necessary tests, for undergoing training in Nattuvangam for four years under Approved Dance Institutions and Instructors. The training has to be given according to a comprehensive syllabus in the theory and practice of Bharata Natya. A stipend of Rs. 75 as subsistence allowance and Rs. 50 as tuition fees, aggregating to Rs. 125 per mensem, will be paid to each scholar for four years. After training, the candidates are required to serve as Nattuvanars-*cum*-Dance Teachers for a period of at least five years.

The following are the four chosen candidates and their respective Training Institutions and Instructors :—

1. Sri Kalyanasundaram Ramiah (of Tiruppampuram) Smt. Balasaraswathi's Classical Bharata Natya School.
2. Sri T. R. Devanathan (of Tirukkadaiyur) ; Kalakshetra.
3. Sri C. S. Swaminathan (of Madras) : Sri V. B. Ramiah Pillai.
4. Sri S. Ramaswami (of Tiruvizhimazhalai) : Indian Institute of Fine Arts, with Sri Chockalingam Pillai as Instructor.

Fishermen Training Schools

V. D. SPURGEON, *Deputy Director of Fisheries.*

[Instruction is imparted to fishermen in the use of mechanised boats and nylon nets at the Fishermen Training Schools in the State at Nagapattinam and Tuticorin. This scheme to train fishermen in modern fishing techniques is steadily gaining ground for the fishermen who use these techniques see that their use helps them catch more fish and earn more money. This article gives an account of the work being done to educate the fishermen in improved techniques at the Nagapattinam and Tuticorin training centres]

Our Marine fishermen have been using for over centuries only primitive catamarams and age-old nets. The Government have recently motorised small boats and given them to fishermen on subsidised basis. To increase the efficiency of fishing, modern nylon nets have also been supplied to them. The fishermen had never heard about motorised boats and nylon nets before and were not familiar with the methods of using them.

Two Fishermen Training Schools for training 100 fishermen (during the Second Five-Year Plan) to handle mechanised boats and nylon nets were therefore established in the Madras State, one at Madras and the other at Tuticorin and both the centres commenced functioning from 1st October 1956. The Madras Training Centre was shifted to Nagapattinam in 1957 and has since then continued at Nagapattinam.

Teaching Staff

The Tuticorin Training Centre serves the southern coastal districts of Kanyakumari, Tirunelveli and Ramanathapuram while the Training Centre at Nagapattinam serves the northern districts of South Arcot, Chingleput, Thanjavur and Madras. The staff at each Training Centre consists of one Assistant Director of Fisheries, one Inspector of Fisheries and one Junior Engineer. While the Assistant Director of Fisheries and Inspector of Fisheries teach the students the management of power boats, modern methods of fishing and elementary navigation, the Junior Engineer teaches the students the fundamentals of marine engines and their machanism.

Syllabus for Training

The Training is spread over a period of six months and during each training a batch of 10 students are trained. Young enthusiastic fishermen of the maritime districts of the State who have studied upto III Form are admitted for this course. A large number of fishermen apply for admission to this training course.

The medium of teaching in the Training Centre is Tamil. Originally the training was intended only to teach the fishermen the use of new types of mechanised boat and operation of engines. Later however the syllabus was slighlty enlarged and the trainees were also taught the modern methods of fishing with improved gears like nylon nets, etc. The fundamentals of navigational traffic are also, taught to them. They are taken often on board mechanised boats to give them plenty of opportunities to handle the boat and gear by themselves. They are given a scientific understanding of the commercially important fisheries of the State and factors responsible for their occurrence and depletion.

The days when fishermen used to be very conservative and refused to take to modern methods of fishing are over. They have now shed all prejudices and superstitions and are ready to listen, consider, understand and take to new methods of fishing, if they are convinced of the advantages. This is a good sign and a sign of progress.

Encouraging Results

So far 100 fishermen candidates from Madras State have been trained and their skill is being fully utilised. Some of them work as crew in pablo boats (mechanised boats) given to Fishermen Co-operative Societies. Some of them have organized themselves into groups of five, each group operating a pablo boat. Such groups are given nets and boats on the recommendations of the two Training Schools. The boats and nets remain under the charge of the Training Schools until the cost of the boats and nets are recovered from the group in easy instalments.

The scheme was started with the intention of bettering the living conditions of fishermen by helping them to catch more and earn more. The results have been very encouraging and in the years to come one may see fleets of mechanised fishing boats moving about our coast, busy fishing.

The Writer as a Successful Co-operator

[Madras State leads the rest of India in the field of Co-operative endeavour. The Co-operative movement has registered spectacular progress here. Since Co-operation has been rightly understood in the State as the sole principle of intelligent living, the success of any Co-operative institution in the State or elsewhere in India has always been interpreted as the vindication of a vital principle. In this article is traced the phenomenal progress recorded by an unusual Co-operative Society outside the State, a Co-operative Society for literary workers, a set of people conventionally regarded as much too individualistic to make good Co-operaters.]

The intellectual and the creative artist are supposed to be intractably individualistic, and it is often unconsciously assumed that the co-operative organization is not likely to be effective in their case, however useful it may be in the case of the farmer or the worker. The history of the Sahitya Pravarthaka (Literary Workers') Co-operative Society of Kottayam, Kerala, however, is a complete and spectacular refutation of this assumption.

The Society had a very humble beginning. In 1945, twelve writers got together, raised a modest working capital of Rs. 120 by voluntary contribution and set up a co-operative society with the objective of eliminating difficulties experienced by writers in getting their works published and guaranteeing reasonable royalties. To-day the co-operative has grown up to be the most important factor for stabilisation of the literary career in Malayalam, the language of Kerala, as a genuine profession.

Phenomenal growth

The growth of the Society over the years has been phenomenal. As against a membership of 12 and a working capital of Rs. 120 in 1945, today it has a membership of 393, and it is operating a working capital of Rs. 4·5 lakhs. Up to June 1 this year, it had published 1,200 books. The average annual production figure over the past several years has been 140 titles or nearly three books every week. Annual volume of sales has increased from Rs. 3·6 lakhs in 1955–56 to Rs. 6·8 lakhs in 1959–60. The shares are moderately priced, Rs. 10 per share. The largest block allowed is Rs. 5,000, and there are only 14 members who have taken the maximum. In order to make the Society as broad-based as possible, the minimum for membership has been brought down to as low as Rs. 100 or ten shares. For the last several years the Society has been able to declare a dividend of 7½ per cent annually on the shares. The annual figure for the amount distributed as royalty to authors is over Rs. 1 lakh.

A Global Record

The Society has, in fact, set up a global record by giving 30 per cent royalty to authors. Such a high figure is earned by some writers in foreign countries also, but nowhere else does it appear to be the standard royalty given to every author whose book is accepted for publication. The high royalty figure has been maintained mainly because the Society does its own marketing and has been able to eliminate the middleman. This is a genuine and important function of a co-operative.

The Society has also introduced novel experiments in marketing promotion. For instance, in October-November 1960, it organized a Book Festival, offering substantial price reductions besides prizes on a lottery basis. Over 50,000 books were sold during this Book Month and the public got, besides the bonus, prizes amounting to a total of Rs. 2,500.

Novel experiment

The Society has also introduced an interesting experiment like a Book Lottery, in which the subscriber pays Rs. 5 every month over a period and if he is lucky, gets Rs. 100 worth of books for a single payment of Rs. 5. Even if he is not lucky, he will ultimately get his book much below the market rates. The fact that about 1,200 people are participating in this experiment shows that it will be possible to establish a home library in every household. Ultimately, however, a steady tempo of

Industries Minister Venkataraman addressed a meeting recently convened at the Children's Theatre for the purpose of forming an United Nations Association.

expansion of sales can be managed only by the establishment of retail bookshops in every small town and village.

Expanding Role

According to a recent survey made by the Co-operative, a Malayali spends only 10 naye Paise on the average during one whole year on the purchase of books. As it is certain that the average amount spent on films or on cigarettes is much higher, there remains a substantial residuary purchasing power which can be tapped if the adequate mechanics can be devised. The Society has drawn up a Five-Year Plan for the establishment of a very wide marketing net-work, the initial phase being the setting up of 100 book shops all over Kerala.

An interesting development which indicates an expanding role for the Society in contributing to the social security of its members followed the death of C. J. Thomas, a well-known critic and dramatist who has translated Sophoclos and Aristophanes into Malayalam, on July 14, last year. The Society took the initiative in launching a drive for a collection for the bereaved family. The target figure was Rs. 10,000. It was able to raise over Rs. 11,000 within one month, by August 14. The Society freely allowed its members to draw advance royalties to make this donation.

Training Educational Administrators

A training centre is being set up shortly in Delhi in collaboration with UNESCO to help in meeting the increasing requirements of educational administrators, both for the Central and State schemes in the Third Plan. This was announced by Dr. Shrimali, Union Minister of Education, while opening a conference of State Education Secretaries and Directors of Education in New Delhi. The conference has been called to consider measures for effective implementation of education schemes in the Plan. Dr. Shrimali said a high degree of effciency and co-ordination would be required to handle the increasing size and complexity of school organization. Also if education had to play its role in strengthening national unity, greater co-operation between the Centre and the States would be necessary.

MADRAS INFORMATION

ANNUAL SUBSCRIPTION - Rs. 2-25 nP. **HALF-YEARLY SUBSCRIPTION**

SINGLE COPY - 20 nP.

Subscription to MADRAS INFORMATION may be paid in cash, by Money Order, by Indian Postal Order or by Cheque drawn on any bank in Madras to the Director of Information and Publicity, Madras-9.

Subscription may also be remitted in local treasuries to the credit head "XLV Stationery and Printing—(b) Sale of Gazettes and other Publications" and the chalan should be sent to the Director of Information and Publicity for reference and record.

Advertisement rates may be had on request.

Telephone Nos:
Advertisement, Subscriptions and General Enquiries—83941—Extn. 96.
Editorial—83111—Extn. 52.

All communications should be addressed to

THE DIRECTOR OF INFORMATION AND PUBLICITY

Fort St. George, MADRAS-9.

Awards for Community Service

The Union Ministry of Community Development and Co-operation, it is learnt, have suggested to State Governments that awards in the shape of "Sanads", or certificates of appreciation, combined, if necessary, with an amount in cash, may be instituted at the State level for the recognition of meritorius work in the fields of community service. The fields include the promotion of panchayats and extension work in agriculture, animal husbandry and rural industries, etc.

The awards, it has been suggested, may be given on certain national days, such as Independence and Republic Day. Some State Governments, it is pointed out, have already instituted awards for recognition of meritorious work at State level. Similar system could be introduced in other States also.